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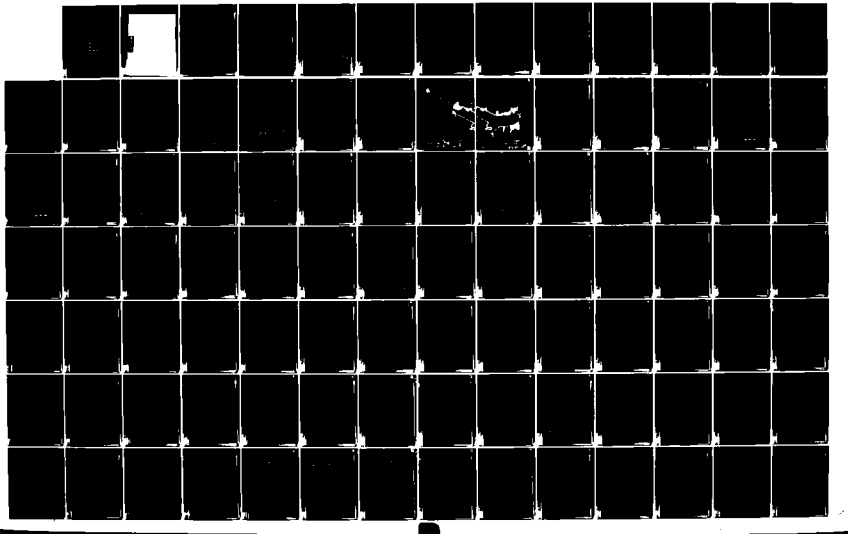

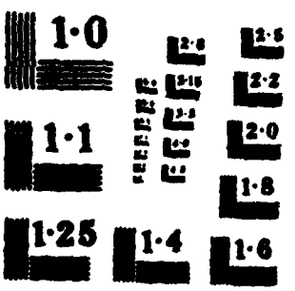
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This is a report of an intensive archeological survey at Harlan County Lake, Harlan County, Nebraska. The objectives of the survey were to inventory archeological resources on the periphery of the lake and to test known sites to determine their eligibility for the National Register of Historic Places.

A total of 64 new sites were recorded.

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INTENSIVE ARCHAEOLOGICAL SURVEY AND SITE TESTING FOR THE NATIONAL REGISTER OF HISTORIC PLACES, HARLAN COUNTY LAKE, HARLAN COUNTY, NEBRASKA

Prepared Under the Supervision of

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With the Assistance of

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Mankato, Minnesota

SEPTEMBER 1982

Report Submitted To
Department of the Army
Kansas City District, Corps of Engineers
700 Federal Building
Kansas City, Missouri

Contract No. DACW41-79-C-0074

ABSTRACT

This is a report of an intensive archaeological survey at Harlan County Lake, Harlan County, Nebraska. The project was done under contract with the United States Army Corps of Engineers, Kansas City District (Contract No. DACW41-79-C-0074). The objectives of the survey were to inventory archaeological resources on the periphery of the lake, to intensively test a number of known sites to determine their eligibility for nomination to the National Register of Historic Places (NRHP), and to make recommendations to the Corps regarding future management of the cultural resources in the project area.

The project was conducted in several phases. First, a comprehensive literature search was done in order to obtain background information on the prehistory of Harlan County and the extent of archaeological research in the area to date. Second, intensive field reconnaissance was conducted for the purpose of locating and evaluating any previously unknown archaeological resources on the shoreline or in the Public Use Areas adjacent to the lake. Methodologies utilized for this purpose included general, transect and spot/transect surface reconnaissance, shovel and auger testing, cutbank planing and soil probing. Finally, seven known sites were intensively tested in an attempt to evaluate their eligibility for inclusion in the National Register of Historic Places.

As a result of the field reconnaissance, a total of 64 new sites were located, recorded, and their probable boundaries were defined. For each site, an assessment of the effects of past, present and possible future disturbance (in the form of erosion, public access, construction, etc.) was made. Evaluation of the data obtained during the course of this project resulted in the formulation of a number of specific and general recommendations for future actions by the Corps of Engineers in the management and preservation of the cultural resources of the area. The authors of this report recommended that Harlan County Lake (as defined by Federal property boundaries) be nominated in its entirety to the NRHP as an Historic District.

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I. INTRODUCTION

The purpose of this report is to present the methods and results of an archaeological survey and site testing project at Harlan County Lake, Harlan County, Nebraska. The project was done by contract with the United States Army Corps of Engineers, Kansas City District (Contract Number DACW41-79-C-0074). The objectives of the survey were to locate, identify, evaluate, and make recommendations concerning archaeological sites previously not known. Additionally, this survey tested seven known sites for the National Register of Historic Places (NRHP).

The first phase of the project was to locate and identify archaeological resources in the shoreline erosion zone and the public use areas of the Harlan County Lake area, and to make subsequent recommendations as to the over-all protection, preservation, and potential public benefit of these resources. The second phase was the testing of seven sites to determine their potential eligibility to the National Register of Historic Places.

Specific goals of the project included: 1) a thorough and comprehensive literature search and records check; 2) an on-the-ground reconnaissance survey to locate archaeological sites; 3) intensive testing of seven archaeological sites for the NRHP; 4) erosional analysis to determine the effects of water action on archaeological sites; and 5) the integration of the data into recommendations which represent guidelines for future reservoir development.

The literature search and records check was conducted by Kathleen A. Roetzel, Richard A. Strachan, and Michael A. Eigen. Kathleen A. Roetzel was the Principal Investigator for this project and was in over-all charge of the various aspects of the field survey and final report. Other personnel involved in this project included Julie Cole, John Kjos, Cindy Nakama, Leann Rudenick, and Roy Zehnder. Each of these individuals has had numerous seasons of field experience including literature search, reconnaissance, survey, excavation, and laboratory analysis. Patricia Emerson and Wanda Watson assisted in the preparation of this report. Amy Welch was involved in the laboratory analysis of the artifactual material, primarily in preparing the specimens for final curation. Line drawings of artifacts were provided by Lana Siriyuvasakdi.

II. DESCRIPTION OF PROJECT AREA

Location

Harlan County Lake is located along the Republican River in the southeastern quadrant of Harlan County, Nebraska. Harlan County is in the south central region of Nebraska along the Nebraska-Kansas border (See Figure 1). The lake is approximately 185 miles southwest of Lincoln, Nebraska and 287 miles northwest of Topeka, Kansas.

Topography

Harlan County is drained by the Republican River and its tributaries which flow in an easterly direction. This drainage system is a part of the larger Missouri River Basin drainage system that flows through the Great Plains Region of the Midwest (See Figure 2). The entire county is part of a broad, easterly-sloping loessial plain in the transition zone of mixed grass prairies. Harlan County can be separated into three topographic units: the uplands, the stream terraces, and the alluvial bottomlands. The outstanding characteristic of this environment is its semi-arid climate, in which the rainfall is inadequate for the sort of agriculture utilized in humid lands.

Soils

The soils that are found in the Harlan County Lake region belong to two different soil associations. The Holdrege-Coly-Uly Association includes soils that are characterized as "deep, very gently sloping to steep, silty soils on divides and drainageways in the loess-mantled uplands" (Mitchell, et. al. 1974). This association is the dominant one for the region. The second soil complex in the area is the Hord-Cozad-Hall Association. These soils are characterized as "deep, nearly level to gently sloping, silty soils on stream terraces and narrow bottom lands... the most important natural resource in Harlan County is its deep, easily worked soils, which are well suited to a variety of uses" (Mitchell, et. al. 1974).

General Project Area Description

The Harlan County Lake project consists of a total of 30,260 acres of government owned land. From this total acreage, 16,350 acres exist as land mass above the normal multi-purpose pool level (1946 m.s.l. elevation). Of this land mass acreage, 7395 acres (45%) are upland, 5060 acres (31%) are terraces, and 3895 acres (24%) are bottomland (Pepperl and Falk, 1978).

The bulk of the remaining acreage exists as Harlan County Lake. The lake was created by the Army Corps of Engineers by the damming of the Republican River. The project was completed in 1952. Inundation of the area has created a lake with 75 miles of shoreline and a total storage capacity of 850,000 acre-feet. The lake extends 12 miles upstream from the dam at normal pool level,

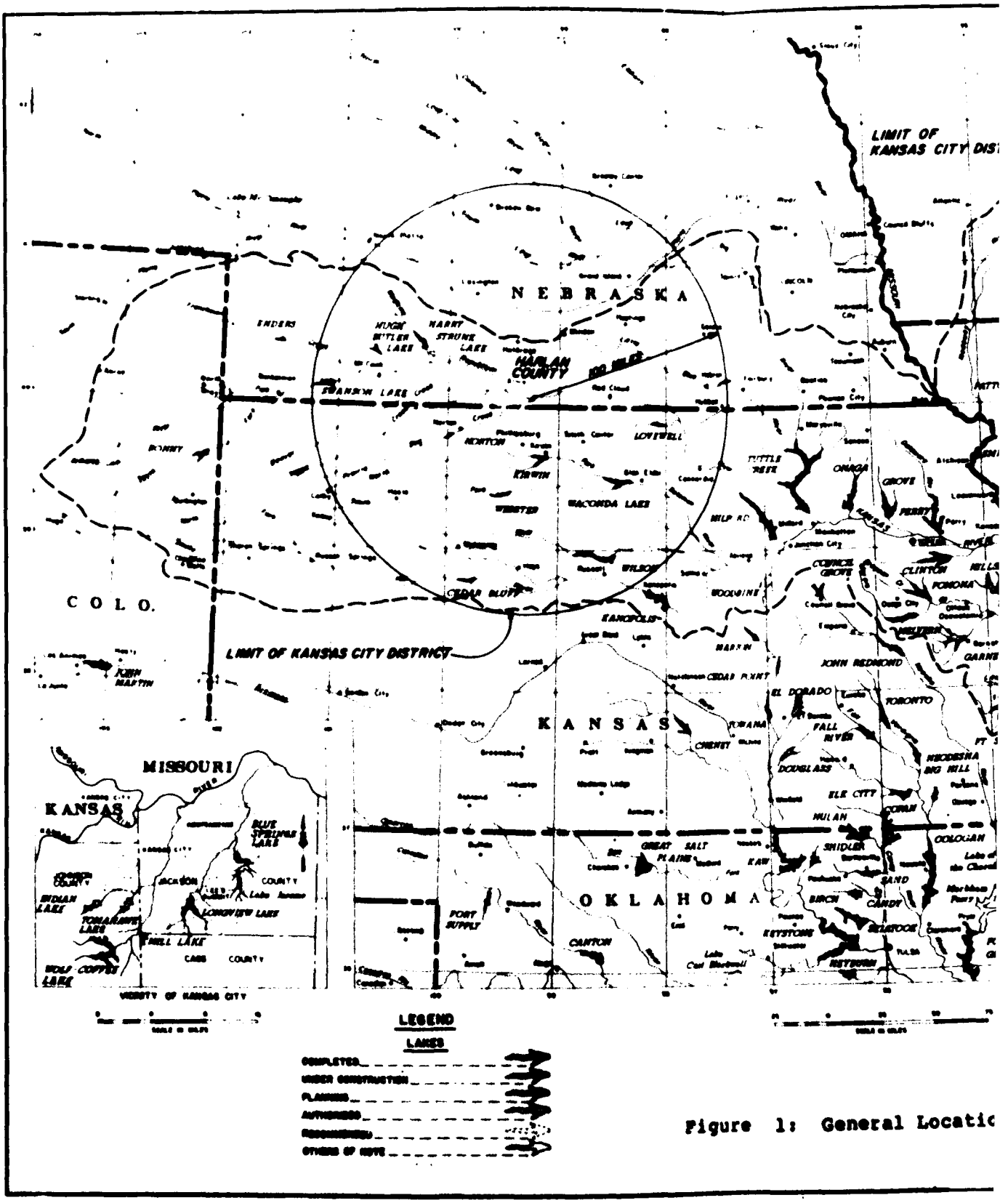
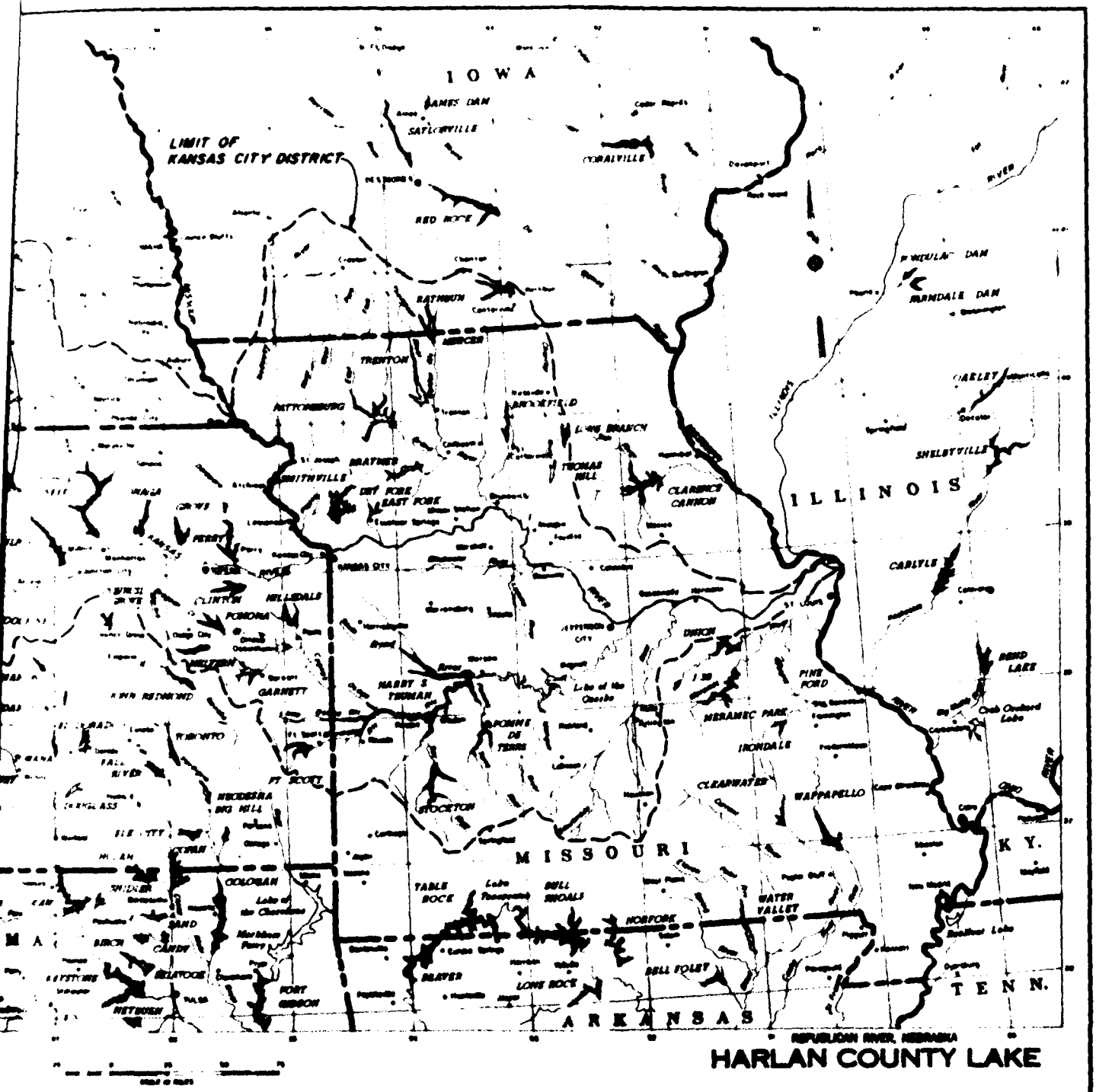


Figure 1: General Locatic



ure 1: General Location of Harlan County Lake

FIGURE 2: MISSOURI RIVER DRAINAGE BASIN

(Adapted from Missouri River Basin Commission 1977)

and controls a drainage area of 7,169 square miles. The lake elevation varies from 1946 m.s.l. at the multipurpose pool level to 1973.5 m.s.l. at the flood control pool level (See Figure 2). The Corps of Engineers considers the lake valuable for flood control, irrigation, conservation, silting reserve, and recreation (Taken from the Army Corps of Engineers Harlan County Lake Brochure, 1975).

Scope of Work

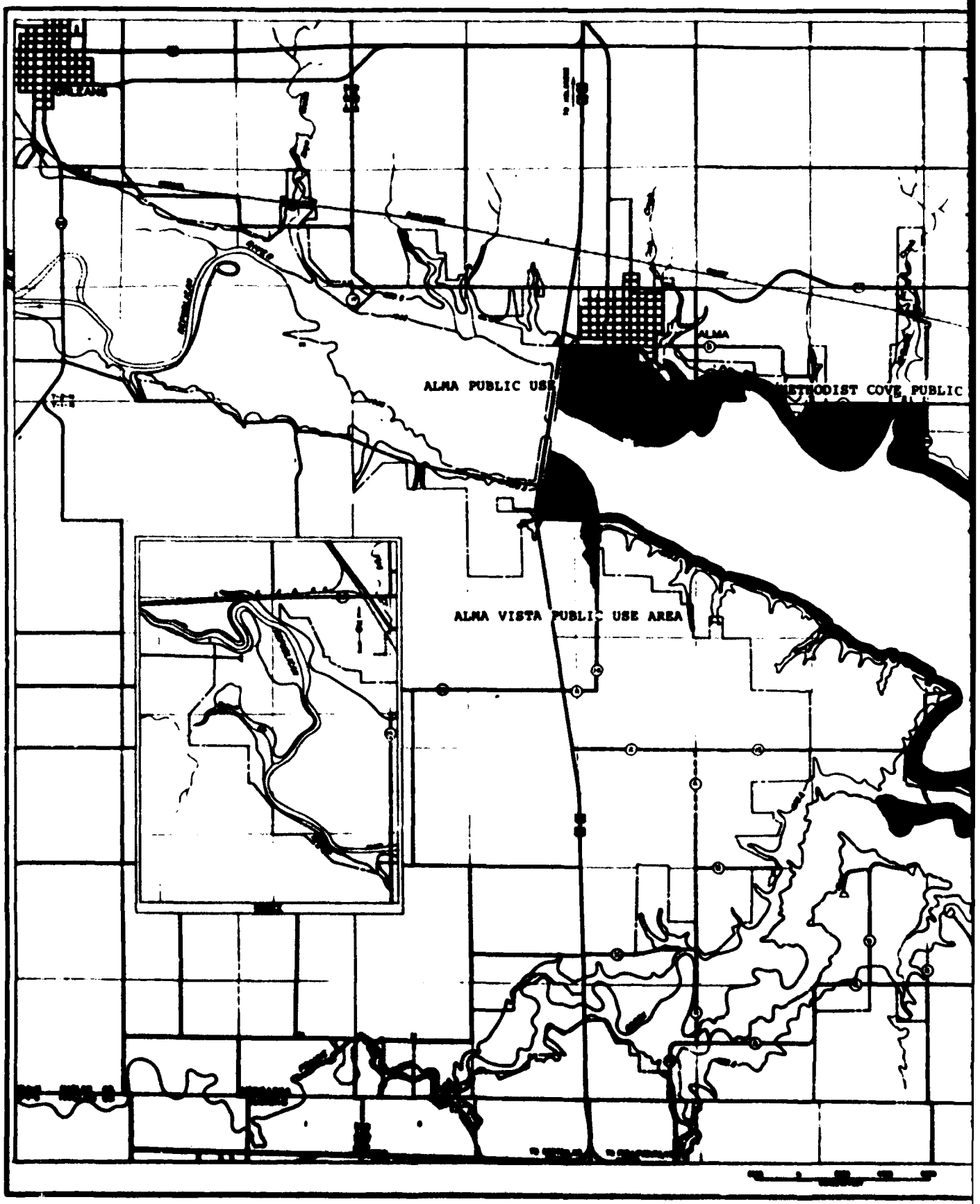
The initial contract for this project (See Appendix D), dated May 24, 1979, requested that 800 acres of shoreline along Harlan County Lake between the elevations 1935.0 m.s.l. and 1953.0 m.s.l. be intensively surveyed (See Figure 3). An evaluation of known sites for the NRHP through limited field testing was included. The known sites to be tested were: 25HN1, 25HN11, 25HN12, 25HN14, 25HN16, 25HN31, 25HN32, 25HN33, 25HN36, 25HN37, 25HN38, 25HN40, 25HN50, 25HN53, 25HN54, 25HN55, 25HN56, 25HN57, 25HN58, and 25HN59. The final request was for survey of the following Public Use Areas: Alma, Alma City Park, Alma Vista, Patterson Harbor, Hunter Cove, Gremlin Cove, Outlet, Methodist Cove, and North Cove (See Appendix, Maps 1-6).

The original proposal was amended (See Appendix D) so that 900 additional acres of shoreline would be included in the intensive survey phase. The amended contract, dated December 3, 1979, required that 1700 acres of shoreline between elevations 1940.0 m.s.l. and 1953.0 m.s.l. be intensively surveyed. It also deleted the following known sites from the NRHP evaluation phase: 25HN12, 25HN14, 25HN31, 25HN33, 25HN36, and 25HN38. The original specifications pertaining to the Public Use Areas remained the same. All of the above-mentioned Public Use Areas were thoroughly surveyed (See Figure 3).

Erosion Analysis

The sites that are now found around the perimeter of Harlan County Lake were once situated on bluffs and terraces above the Republican River and Prairie Dog Creek. Prior to inundation, these sites were protected from the effects of the elements, except perhaps for wind erosion. The prehistoric peoples who chose these sites did so because they provided proximity to a permanent water source without the threat of flooding. Subsequent to inundation of the lake, the most destructive source of damage to the cultural resources is erosion from wave action.

This constant disturbance takes two forms. First, it is evident that wave action is eroding the cutbanks surrounding the lake, particularly on the south shore. Figure 4 was taken from the U.S.G.S. Vining Creek to Alma quadrangle map, 1937 and from the U.S.G.S Republican City, Nebraska-Kansas quadrangle map, 1974. The Figure represents the differences in the shorelines of Sindt Point and White Cat Point at 1950 m.s.l. between 1937 and 1974. Approximately 115 meters of the cutbank on the north shore of Sindt Point has been washed away. The configuration of the


ALMA PUBLIC USE
METHODIST COVE PUBLIC
ALMA VISTA PUBLIC USE AREA

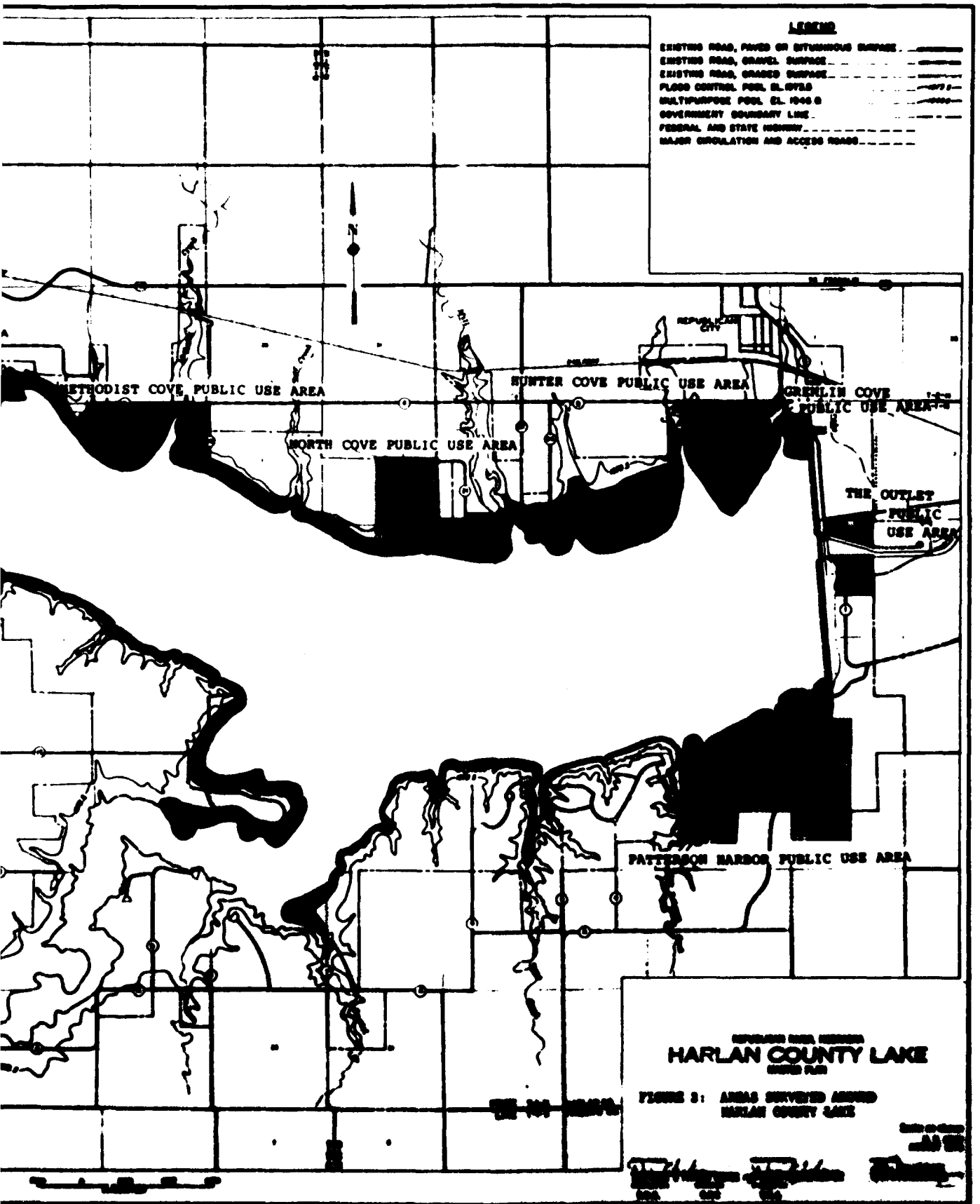
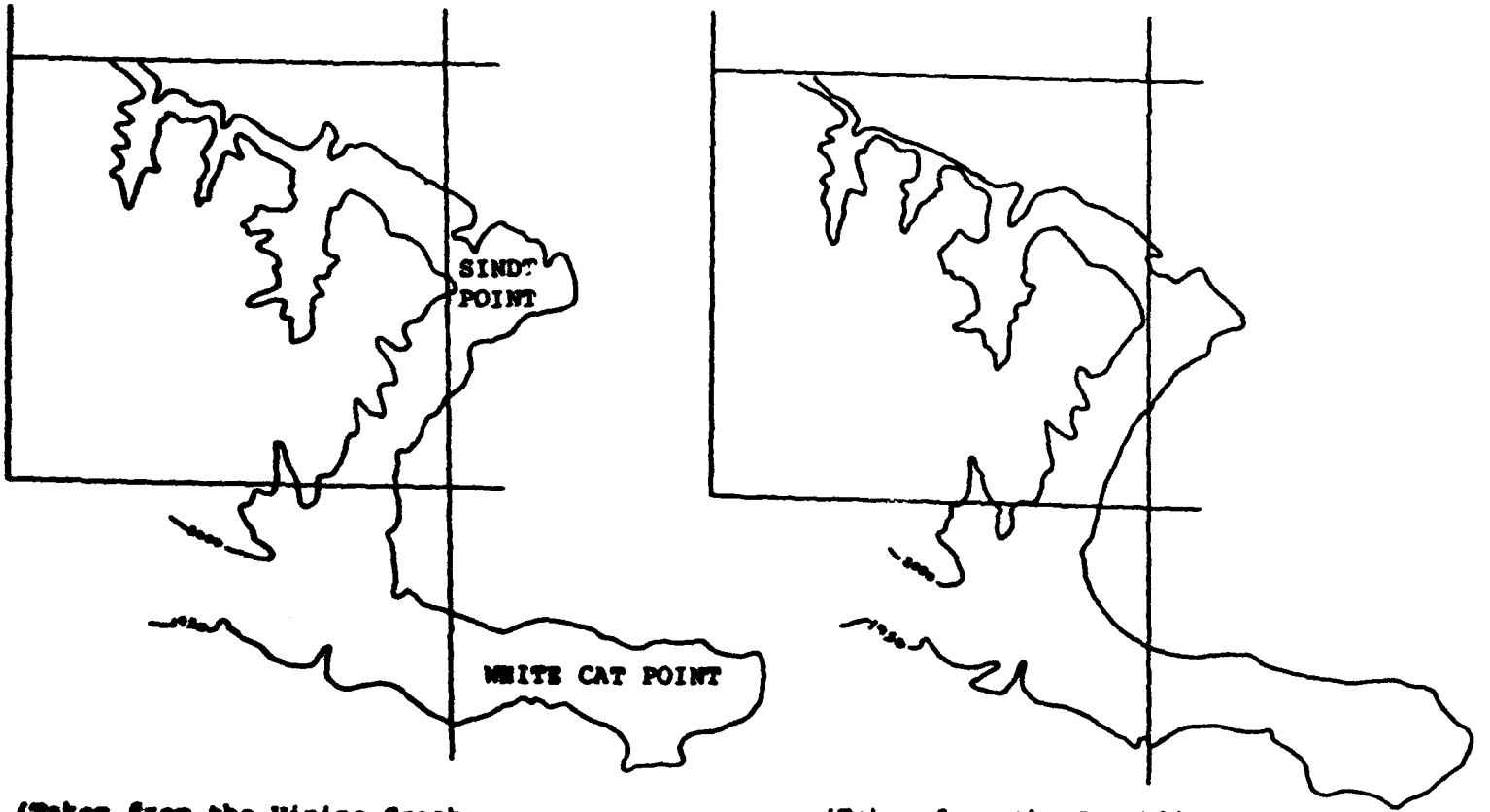

LEGEND
METHODIST COVE PUBLIC USE AREA
HUNTER COVE PUBLIC USE AREA
NORTH COVE PUBLIC USE AREA
PUBLIC USE AREA
THE OUTLET PUBLIC USE AREA
PATTERSON HARBOR PUBLIC USE AREA
HARLAN COUNTY LAKE

FIGURE 4: EFFECTS OF EROSION ON SINDT POINT AND WHITE CAT POINT BETWEEN 1937 AND 1974



(Taken from the Vining Creek to Alma Quadrangle, 1937)

(Taken from the Republican City, Nebraska-Kansas Quadrangle, 1974)

shoreline has also changed, in that small points have been eroded away and inlets have been filled, making the shoreline appear much more uniform.

The constantly changing cutbank was evident between 1977 and 1980. Pepperl and Falk (1978) make mention of site access on Sindt and White Cat Points via gravel roads. When the field examination was conducted in 1979, there were instances where the roads terminated at the very edge of the cutbank. Thus, roads that were intact in 1977 have since been partially destroyed as the cutbank was eroded further and further back from the waterline. Additionally, the condition of many sections of the cutbank had dramatically changed from 1977 to 1980.

On the north shore of Sindt Point in 1977, the beach was clear of fallen trees (Pepperl, Personal Communication). In 1979, there were long stretches of beach along which crew members had to climb through a tangle of fallen trees. The beach was obviously not clear. In 1977, these trees were growing above the cutbank, and in the interim had fallen onto the beach. Some of the trees were bleached from the sun and had been down for over a year. Others still had green foliage growing and had probably fallen in the spring of 1979. When Sindt Point was revisited in 1980, again, new trees had fallen from the cutbank tearing away as much as 3 meters of soil with their root systems. Also, the soil that had been peeled from the cutbank in 1979 had been dissolved by water action and was probably redeposited over the beach.

The second form of disturbance is more subtle, and takes the form of wave action on the beach. That is, the force of the wave action is sufficient to physically move and redeposit large quantities of soil. It is obvious from the 1977 and 1979 investigations and the 1980 revisit to the lake that wave action is also moving and redepositing cultural materials. For example, at the time Pepperl and Falk (1978) located 25HN58, their investigation revealed 3 lithic artifacts on the surface and the size of the site was determined to be 10 square meters. In 1979, when the same site was tested for the National Register of Historic Places, 96 artifacts were recovered from the beach, resulting in a site size of approximately 5625 square meters.

Three possible explanations can be given for this difference. First, the artifacts that were recovered in 1979 were indeed on the beach in 1977, but were covered with sandy silt. Second, in 1977 the artifacts were not on the beach at all, but by 1979 had been washed there by wave action from an inundated site. Third, the artifacts recovered in 1979 were in situ in the cutbank in 1977 and were subsequently washed onto the beach. Making a determination as to the original location of deposition of the artifacts from 25HN58, as well as the other beach sites, has been difficult, if not impossible in some cases.

III. FIELD METHODOLOGY

Archaeological Field Methods

The utilization of any archaeological field methodology or combination of field methodologies is dependent upon the particular goal orientation of the survey, as well as specific characteristics of the survey area such as topography, ground surface visibility, erosion, deposition, etc. In order to maximize the location of prehistoric sites and to determine the nature and extent of each site, six field methodologies were used. They were: 1) ground surface reconnaissance; 2) patterned ground surface reconnaissance; 3) shovel testing; 4) auger testing; 5) cutbank planing; and 6) soil probing.

Ground Surface Reconnaissance

On the shoreline, the primary method of site location was ground surface reconnaissance. The surface manifestations of archaeological sites were located, recovered, and properly labeled as to provenience. This visual inspection was done at a maximum interval of 30 meters, with the crew walking parallel to the waterline and cutbank. Where the width of the sandy shoreline was constricted, the survey interval was comparably smaller.

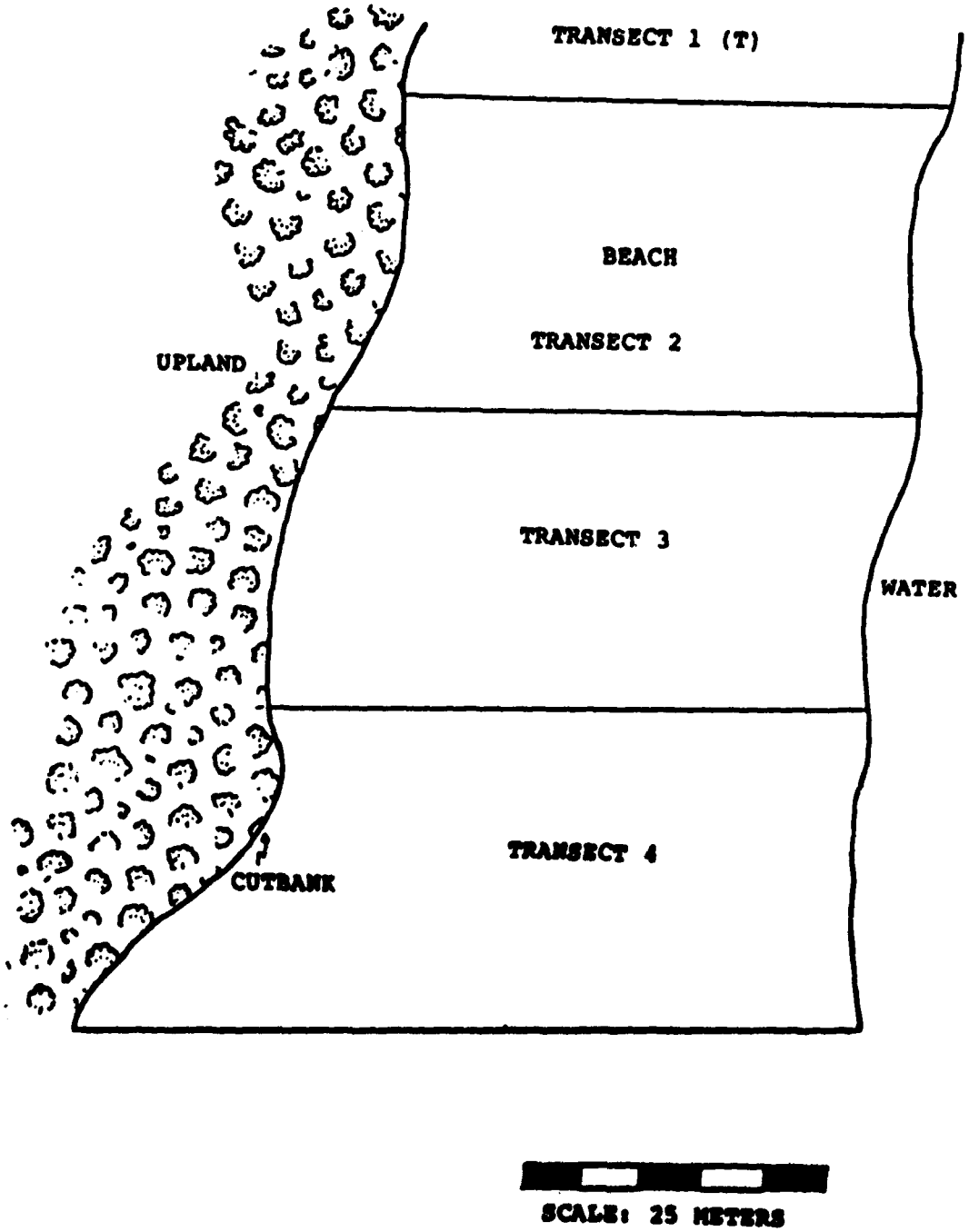
In the public use areas, ground surface reconnaissance was restricted to those areas where the ground surface visibility allowed for successful visualexamination. This was usually restricted to gravel roads, camping areas, and wooded areas where tree litter was minimal. Thus, the survey interval utilized in the uplands was variable.

Patterned Ground Surface Reconnaissance

Two types of patterned surface reconnaissance were employed during this survey. The first was the transect method. As will be demonstrated later, there were instances in which several sites were located adjacent to each other (particularly around Sindt and White Cat Points). Thus, the delineation of site boundaries would have been extremely difficult if the standard 30-meter interval surface reconnaissance method described above had been used. Instead, in these situations, transects were laid from the edge of the water to the cutbank at 25-meter intervals. As will be seen, the utilization of this method simplified the delineation of site boundaries. It should be noted, however, that while the width of the transects remained constant (25 meters), the lengths of the transects were dependent upon the distance from the edge of the water to the cutbank (See Figure 5).

The second type of patterned surface reconnaissance was the spot-transect method. This method was utilized in order to obtain more precise information on the distribution of artifacts within a site area than could be obtained using the general

FIGURE 5: GRAPHIC DISPLAY OF THE TRANSECT METHOD



transect method. Such information was useful in attempting to identify areas of original artifact deposition and patterns of redeposition. Implementation of this method involved the placement of transects from the shoreline to the cutbank at 25 meter intervals. Unlike the method described above, in which artifacts were collected between the transects, this method called for the collection of artifacts on the transects, in one-meter square areas at five-meter intervals (See Figure 6). Thus, on any transect, all of the artifacts within a one-meter square area at the edge of the water were collected. The next one-meter square area was five meters from the edge of the water on a line toward the cutbank. Collection of artifacts continued in this manner to the base of the cutbank, or as close as possible in areas where vegetation or erosional gullies impeded access to the cutbank itself.

Some mention should be made of the numbering system of the transects and the subsurface tests. The assignment of transect numbers was done in the field. Every effort was made to avoid overlapping transect numbers to eliminate confusion.

However, there are two sites which do not have continuous transect numbers. On site 25HN50, the numbers range from Transect #200-#213. Additional transects were done at this site at a later date and to avoid overlap, the additional transects were numbered Transect #250-254. It should be noted that Transect #200 and #250 were parallel to each other at a 25 meter interval.

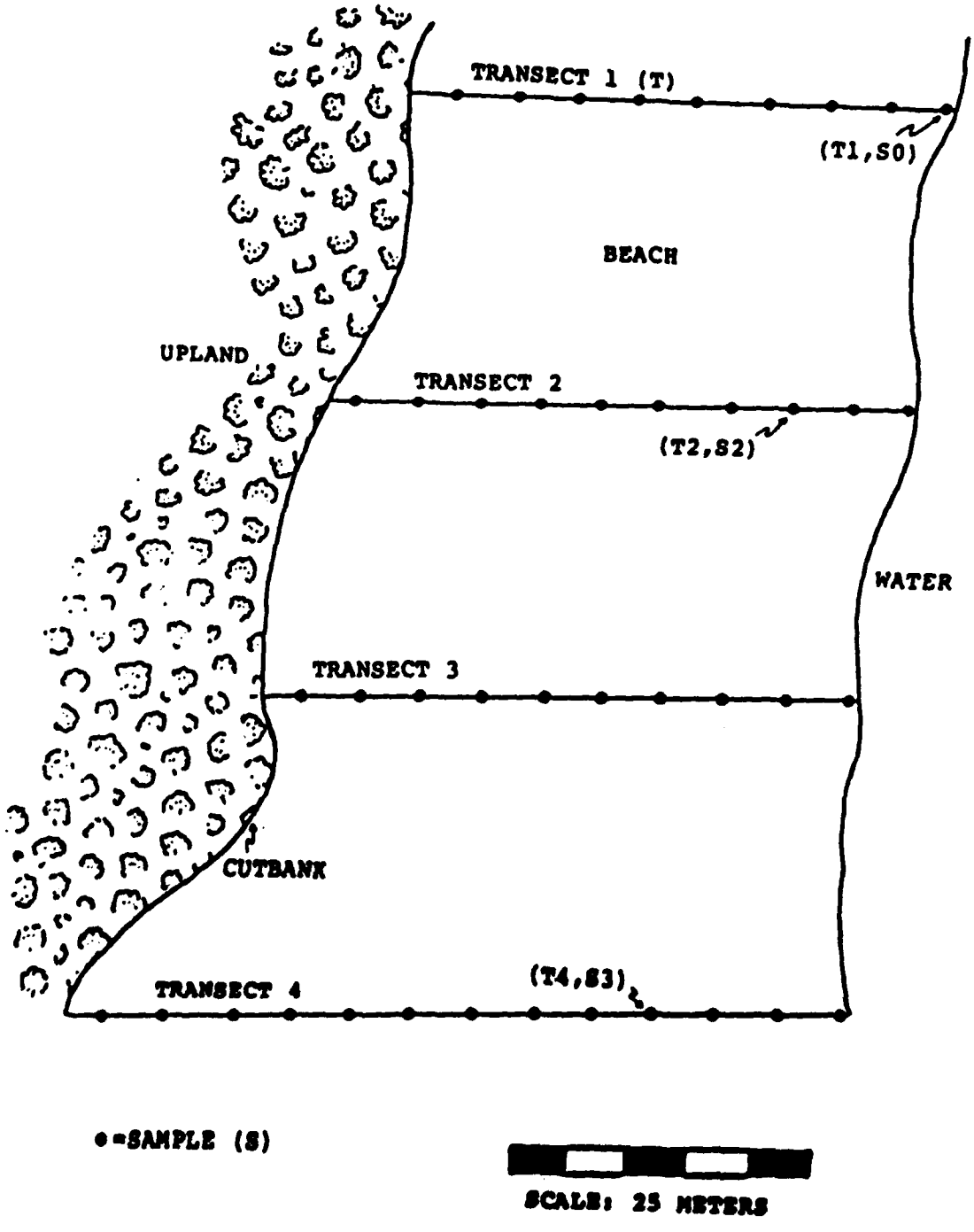
The second site is 25HN55. The numbers on this site include Transect #100-#111 and the subsequent transects include Transect #150-154. Again, Transect #150 is parallel to Transect #100 at a 25 meter interval.

In terms of the shovel test and auger test numbering, the uniformity of the numbering system was dependent upon whether or not the crew was working together or apart. The goal was not to have two subsurface test units from the same site with the same number, making the subsequent laboratory analysis very difficult. It should be noted here that neither the transect numbers nor the shovel test or auger test numbers were changed in the laboratory. It may not give the appearance of uniformity and flow, but the report will always coincide with the field notes that were taken and can be of use to future researchers. Additionally, it should be noted that the shovel test and auger test numbers indicate the exact number of subsurface tests that were dug on the particular site. For example, at 25HN40, the shovel tests are numbered 22-26. This indicates that 5 shovel tests were dug on the site and not 26.

Shovel Testing

Shovel tests were dug in those areas which did not allow for adequate ground surface reconnaissance. Each test was 50 cm. by 50 cm., dug in 10 cm. artificial units. All of the backdirt from

FIGURE 6: GRAPHIC DISPLAY OF THE SYSTEMATIC SPOT/TRANSECT METHOD.



each pit/level was processed through 1/4" wire mesh screens. Any artifact recovered from the shovel testing was recorded as to location by specific pit and level. The shovel testing was particularly useful in the upland areas and for testing the previously recorded sites for the NRHP.

Auger Testing

Auger tests were dug at most of the newly-located archaeological sites. Each test was 7 inches in diameter and was dug in 10 cm. artificial levels. Again, all of the backdirt was processed through 1/4" wire mesh screens by level. All artifacts recovered were bagged according to pit and level. Auger testing allowed for greater depth (up to eight feet) than did shovel testing, and therefore proved particularly useful on the upland sites. Additionally, the auger testing process was measurably more time-efficient than shovel testing, allowing for the recovery of the same amount of information in far less time.

Cutbank Planing

Planing of the cutbank was done utilizing a trowel or small hand hoe. The exposed cutbank was planed or smoothed and measurements of the various stratigraphic levels were noted. There was no specified interval for the cutbank planing. The primary determinant was accessability to the bank. If fallen trees or dense vegetation cover did not allow the crew member access to the bank, planing was not done. In site areas where cutbank planing was possible, visual examination of the cutbank was done along the entire extent of the cutbank and actual planing was done at appropriate intervals.

Additionally, any artifacts that were found in the cutbank were recovered and noted as to location. Because of the tremendous amount of erosion and redeposition caused by water action, the information obtained from the cutbank was very useful. In some instances, it aided in determining whether a site found on the beach through surface reconnaissance was in situ, redeposited onto the beach, or eroded down from the cutbank. Cutbank planing was also helpful in determining the extent of erosional damage and whether or not certain sites have been completely destroyed.

Soil Probing

Subsurface probing is a minimal-disturbance technique for sampling and evaluating subsurface stratigraphy, disturbance, or cultural materials. The soil probe was one meter in length with a coring capacity of one square centimeter. It was used primarily in the bottom of shovel tests, but was also used horizontally in the cutbank.

Determination of Site Boundaries

The boundaries of the archaeological sites were defined by

employing two distinct criteria. The first was physical and natural boundaries such as shoreline, high vertical cliffs, etc. The second was the areal extent of the artifactual material. These two factors were used together in the determination of site boundaries (See Figure 7).

Thus, when an archaeological site was located on the beach, for our purposes, one site boundary was the shoreline. It is certainly possible that some of the sites extend into the water, but it was well beyond the scope of this project to make that determination.

Determination of Site Type

The sites located as a result of the field survey can be classified initially upon the basis of location and subsequently according to the nature of their present status. When this is combined with the type of site considered, it is possible to outline out a coherent set of site-specific recommendations as to site management.

The sites located as a result of this survey were situated either in the uplands or on the beach. All of the sites can be further classified on the basis of their present condition. Thus, the upland sites can be divided into disturbed, undisturbed, and redeposited.

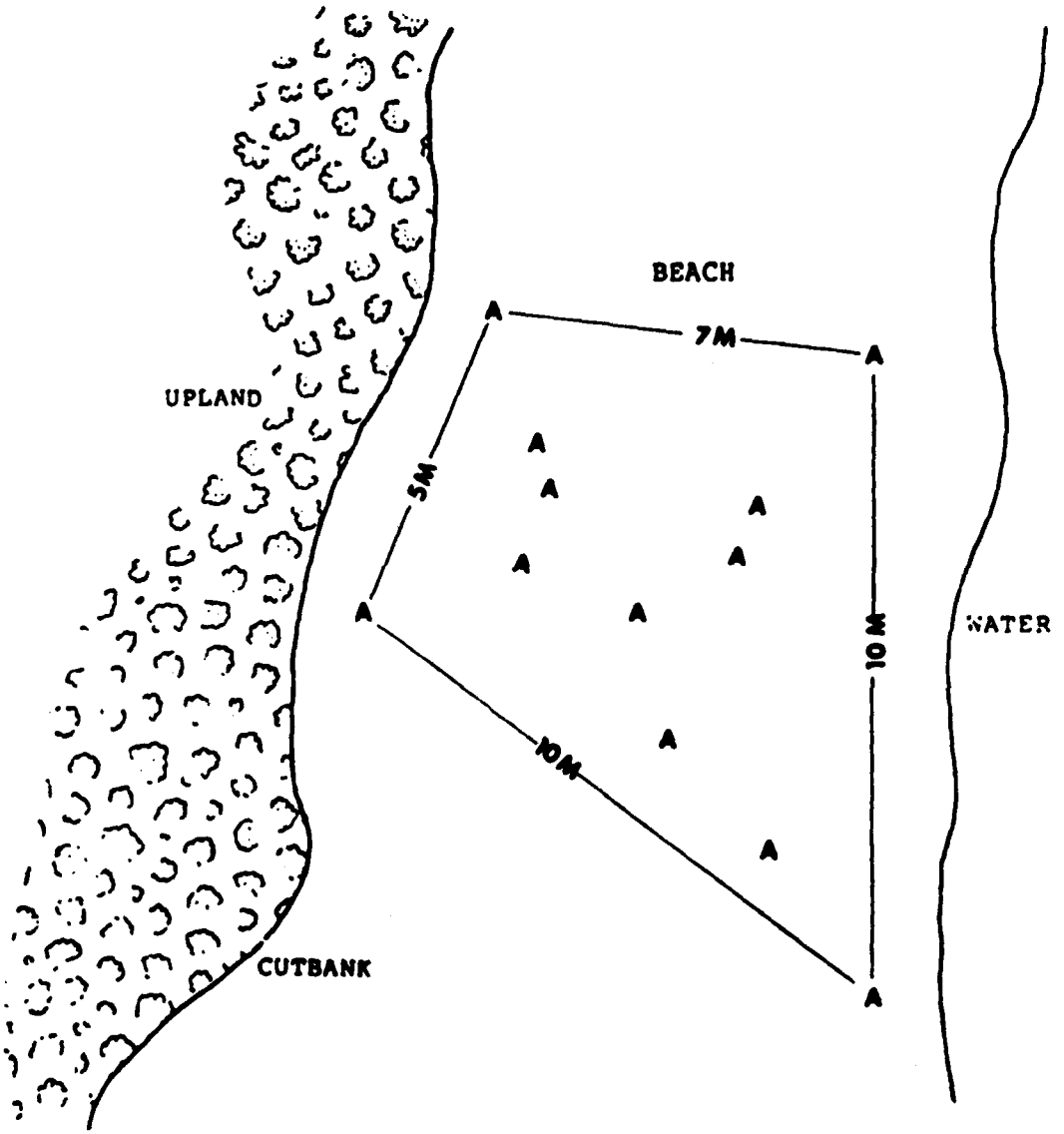
A disturbed upland site is a site which is being or has been damaged by erosion, construction of picnic areas, campgrounds, roads, etc. An undisturbed upland site is a site which exhibits no evidence of past disturbance nor potential future disturbance such as vehicular or pedestrian traffic, road construction, etc. A redeposited upland site is a site found in or near a road which exhibits evidence of being brought in with graveling or fill operations. The location of original deposition is not known for these sites.

Likewise, the shoreline sites can be broken down into three categories, including those sites found on the beach as a result of redeposition, beach sites with evidence of additional cultural material in the cutbank, and inundated sites. A beach site is a redeposited site where cultural material was recovered from the beach and no additional evidence of cultural material was recovered from the cutbank. Artifacts from these sites are randomly scattered on the beach from the cutbank to the waterline such that determining whether the redeposition came from the cutbank above or below the waterline is impossible.

A beach/cutbank site is a site where cultural material was recovered from the cutbank in addition to the lag deposits on the beach. An inundated site is a site located on the mud flat below the normal pool elevation of the lake and so is periodically or consistantly inundated.

The determination of whether a beach site is redeposited on

FIGURE 7: DETERMINATION OF SITE BOUNDARIES



(Based Upon the location of cultural material, the size of this site is approximately 55 square meters)

the beach, inundated, or a lag deposit is made on the basis of the distribution of artifactual material recovered from the beach. If the cultural material was recovered only along the waterline, the site is assumed to be inundated. If cultural material was recovered from along the cutbank, it is assummed to be a lag deposit. Sites where cultural material was randomly scattered on the beach from the cutbank to the waterlineare considered a redeposited site that could be from a site eroding from the cutbank or from an inundated site. All artifacts found on the beach are subject in varying degrees to redeposition by water action. While it may represent a secondary deposit, it may be that artifacts from the site can still be found in situ on the cutbank above or in the case of particularly large sites, beyond the tension zone below the waterline.

For the purposes of making pertinent recommendations, it is necessary to also categorize the sites into types. The types of sites that were recovered include habitation, camp sites, lithic scatters, and find spots. A habitation site is defined here as a site which exhibits evidence of long-term occupation of an area by prehistoric peoples. Because the relationship between sedentary or semi-sedentary habitation and ceramics is well documented in the archaeological literature, if a site yielded ceramics it was classified as a habitation site. In addition to the ceramics, these sites have yielded stone tools and a wide range of lithic debris.

A camp site is a site which has no evidence of long-term occupation. It is generally characterized by scattered lithic debris and stone tools. No site which yielded ceramics was classified as a camp site. A lithic scatter is a site which yielded only lithic debris. Because of the variation in the size of the lithic scatters, they have been arbitrarily broken down into small, medium, and large. A small lithic scatter yielded 2-10 artifacts (a single artifact is a find-spot), a medium lithic scatter yielded 11-25 artifacts, and a large lithic scatter yielded more than 26 artifacts. A find spot is defined as any area at which only a single artifact was recovered.

Thus, the categorization of sites can be broken down as follows:

I. Upland

A. Disturbed

1. Habitation
2. Camp
3. Lithic Scatter
4. Find Spot

B. Undisturbed

1. Habitation
2. Camp
3. Lithic Scatter
4. Find Spot

C. Redeposited

1. Habitation
2. Camp
3. Lithic Scatter
4. Find Spot

II. Shoreline

A. Beach Only

1. Habitation
2. Camp
3. Lithic Scatter
4. Find Spot

B. Beach and Cutbank

1. Habitation
2. Camp
3. Lithic Scatter
4. Find Spot

C. Inundated/Destroyed

1. Habitation
2. Camp
3. Lithic Scatter
4. Find Spot

IV. LABORATORY METHODS

General Analysis

In the laboratory, all of the artifacts recovered from the survey at Harlan County Lake were cleaned. The stone artifacts were washed in clear water and air dryed. The more delicate types of materials, such as bone and ceramics, were dry-brushed using a soft toothbrush. Any friable meterials, such as shell and bone, were immediately put into small plastic cups with lids and protected with cotton. During this process, all of the artifacts were kept separate on the basis of site, test unit or transect and exact provenience.

All of the artifacts were then numbered by site, utilizing the system of the Nebraska State Historical Society. (Site numbers, site survey forms and artifact inventory forms were obtained from the Historical Society.) As the artifacts were being numbered, artifact inventory forms were filled out. These forms indicate accession number, site number, individual catalogue number, a brief description of each artifact, and the location and depth of recovery. When their analysis was completed, all artifacts from this survey were packaged and delivered to the University of Nebraska-Lincoln for permanent curation.

Lithic Analysis

All of the lithic artifacts recovered from this survey were classified into types which reflect specific activities associated with them or attributed to them. The distribution of lithic artifacts was then examined, and tools were analyzed to determine cultural affiliation. However, the assignment of any site or component to a cultural affiliation was based upon both lithic and ceramic analysis.

Ceramic Analysis

All of the recovered ceramics were sorted on the basis of cultural affiliation, where possible. The frequency and distribution of the ceramics was examined and compared to the distribution of lithic artifacts in order to aid in determination of cultural affiliations for specific sites.

V. CULTURE HISTORY

The geographic area with which this report is concerned is situated in what has been designated the Central Plains Subarea of the Great Plains Culture Area. Specifically, it is part of the Loess Plain Region of the Central Plains, a mixed-grass transitional zone between the short-grass prairie to the west and the tall-grass prairies and woodlands to the east. Most of this region is dissected by the valleys of the Republican River and its tributaries, which ultimately empty into the Missouri River.

Extensive research, as outlined by Pepperl and Falk (1978), into the prehistory of the Central Plains Subarea has resulted in the recognition of four major periods of cultural development: the Paleo-Indian or Big-Game Hunting period, the Archaic or Foraging period (both pre-ceramic), the Plains Woodland period and the Plains Village period. Currently, very little evidence is available regarding the specifics of the first two periods as they occurred in the vicinity of Harlan County Lake. Evidence from surrounding areas, however, indicates that the Paleo-Indian period was characterized by a focus on intensive hunting of now-extinct Pleistocene megafauna, probably utilizing worked-stone tools of the types known as Folsom and Clovis. The Archaic period which followed represents a modification of subsistence practices, with increased emphasis on gathering of wild food resources and a shift in hunting patterns to a focus on smaller, faster game animals.

The two later cultural periods, the Plains Woodland, (c. A.D. 1 - A.D. 1000) and the Plains Village, (c. A.D. 1000 - historic times) are much better known from investigations at numerous sites in the Central Plains. The Woodland sites indicate that the people of this period focused their subsistence activities on hunting and gathering in small wooded creek valleys. Sites are generally rather small, and the remains of house structures are indicative of temporary shelters rather than substantial, semi-permanent dwellings. Thick, cord-roughened ceramics are a characteristic trait of these sites. Evidence of the presence of exotic cultigens (corn and squash) has been recovered from a few Woodland sites, but very little is yet known about exactly when cultigens first appeared in the area or how extensive horticultural activities were during this period. Several mass burial areas have also been located, which exhibit semi-flexed interments and grave goods including shell bead necklaces. A number of regional variants of this general pattern have been recognized in the Central Plains, one of which is the Keith Focus, which occurs in central and western Nebraska.

The succeeding Plains Village Period is probably the best-known of all prehistoric cultural patterns in the Central Plains. It appears to represent an incursion into the area by peoples from another region (probably to the south), to a great extent supplanting the Woodland lifestyle which had previously existed.

In general, this cultural complex was characterized by larger, more permanent settlements than were extant during the Woodland period, a change in preferred location to terraces above major stream channels, increased emphasis on horticulture for subsistence and an elaboration of ceramic styles. Like the Woodland, this period has also been divided into a number of subgroupings, defined on the basis of cultural assemblages and distinguished from each other temporally and/or spatially.

One of the best known of the subgroups within the Plains Village period is the Upper Republican Culture (or aspect). It was first identified from sites found along the drainage of the Republican River in southern Nebraska, and is generally considered to be concentrated in the Loess Plains Region of Nebraska. The Upper Republican villagers were intensive horticulturalists who grew corn, beans, squash and sunflowers in the broad bottomlands of the Republican River and its tributaries. They were not, however, exclusively farmers. Upper Republican sites appear to reflect a continued reliance on exploitation of local plant resources and hunting pursuits, including seasonal group hunts for large game such as buffalo. Other traits of Upper Republican culture include characteristic rectangular earth-lodges and ceramic vessels with thickened, flared rims decorated with incised lines.

The Upper Republican complex itself has been broken down into a number of smaller units, each of which represents a particular local adaptation within the larger cultural pattern. The Lost Creek Focus is such a unit which has been defined and identified in the vicinity of Harlan County Lake. Slightly to the west, a number of sites have been assigned to the Medicine Creek Focus of the Upper Republican Aspect. The distinctions between these units are based to a large extent on differences in ceramic decoration techniques.

The decline of the Upper Republican culture appears to have occurred sometime around A.D. 1500, for reasons not yet fully understood. It is probable, however, that major climatic changes resulting in prolonged periods of drought had an adverse affect on farming practices and forced an abandonment of the area in favor of lands more suitable to horticulture.

The final stage of prehistory in the Central Plains extends from about A.D. 1500 to the time of intial contact with Europeans. Among the cultural designations formulated for this final segment of the Plains Village period is the Dismal River Aspect. This cultural complex apparently represents a return to hunting as a primary mode of subsistence, with very little dependence on horticulture. Sites are characterized by small, circular house structures and thin, frequently mica-tempered ceramics with "simple-stamp" decoration. The Dismal River affiliation is generally considered to represent the peoples known in historic times as the Plains Apache. Sites near Harlan County Lake which have been assigned to this category include White Cat Village (25HN37). Occupation at this site has been

dated at c. A.D. 1725 and it thus appears to be one of the latest representatives of the Plains Village Tradition prior to the advent of historic times.

Taken From: Gradwohl (1969); Grange (1968); Pepperl and Falk (1978); Wedel (1961); and Wood (1969).

VI. DESCRIPTIONS OF NEWLY RECORDED ARCHAEOLOGICAL SITES

The site descriptions below are arranged in directional order around the periphery of Harlan County Lake. For locational purposes, the lake has been divided into six sections, as follows:

Section A: On the north shore of the lake, from its eastern-most end to the middle of North Cove.

Section B: On the north shore of the lake, from the middle of North Cove to the middle of Methodist Cove.

Section C: On the north shore of the lake, from the middle of Methodist Cove to the City of Alma.

Section D: On the south shore of the lake, from the Alma Vista Public Use Area to the tip of Sindt Point.

Section E: On the south shore of the lake, from Sindt Point to the middle of Bone Cove.

Section F: On the south shore of the lake, from the middle of Bone Cove to the eastern-most end of the lake.

The sites are listed in order, starting on the north shore of the lake at its eastern end (Section A), and proceeding in a counter-clockwise direction around the lake to Section F. Each site is identified as being located in one of the sections defined above.

25HN115

Description and Condition of the Site

This site is a small lithic scatter located on the beach in Section A. Cultural material was recovered from the beach close to the base of the cutbank. It is possible that the artifacts that represent this site are part of 25HN114 and have been redeposited by wave action. The elevation at the site is 1950 m.s.l. and the ground surface visibility was 75 percent. The size of the site is 30 square meters. The cultural affiliation is indeterminant.

Sources of Disturbance

Heavy public use of the beach area and wave action are the primary sources of disturbance to the site.

Method of Collection

The site area was visually examined. Additionally, open

areas within the campground above the site were checked, but no cultural material was recovered. The cutbank was closely inspected but no cultural material was recovered.

Artifacts Recovered

Three jasper flakes were recovered from the site.

25HN114

Description and Condition of the Site

This site is a camp located just west of 25HN115 in Section A. It is situated on a ridge above the beach. All of the artifacts except the projectile point were recovered from open areas in the campground where the ground surface visibility was variable. The projectile was recovered from the beach below the site, where the ground surface visibility was 70 percent. The elevation at the site is 1950 m.s.l. Site size is approximated at 75 square meters. Recovered cultural material indicates that this site dates from the Late Prehistoric-Early Historic period.

Sources of Disturbance

This site is located in the southern portion of the campground and extends onto the beach. Because of the heavy public use in the area, the site has been disturbed by construction and maintenance of the campground in addition to pedestrian traffic. The beach along the site area also exhibits evidence of heavy public use. Wave action is another source of disturbance at the site.

Method of Collection

Because the campground was covered with grass, no surface reconnaissance was conducted above the cutbank. On the beach, the site area was visually inspected. No shovel tests or auger tests were placed above the cutbank. The area was disturbed by the campground and any subsurface testing would have been useless. The cutbank along the site area was examined but no cultural material was recovered.

Artifacts Recovered

A total of 4 artifacts were recovered from this site, including 3 jasper flakes and the base of a stemmed jasper projectile point.

25HM152

Description and Condition of the Site

This site is a find spot located in the uplands in Section A. It was located in a field where the ground surface visibility was less than 10 percent. When the site was revisited, the crop had been harvested, but the surface visibility was still poor. The topography surrounding the site is reasonably uniform. The elevation at the site is 2000 m.s.l. The size of the site is unknown. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

Unlike many of the other sites, there is nothing like water action or potential construction that will have an immediate impact on the site.

Method of Collection

Because the ground surface visibility was so poor, a thorough visual examination of the site was impossible. Two auger tests were placed on the site.

Auger Test #1 was placed 1 meter from the location of the isolated flake. It was dug to 50 cm. and no cultural material was recovered.

Auger Test #2 was placed 15 meters south of Auger Test #1. It was dug to 70 cm. and yielded no cultural material.

Artifacts Recovered

A single jasper flake was recovered from the site.

25HM113

Description and Condition of the Site

This site is a small lithic scatter located in Section A. The size of the site is approximately 150 square meters. Artifacts were recovered only from a ridge, although the beach below was also examined. The ground surface visibility at the site was approximately 90 percent. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

Two sources of potential disturbance exist on the site. The first is soil erosion off the ridge to the beach and the second is pedestrian traffic and/or vandalism.

Method of Collection

Ground surface reconnaissance was done both on the ridge and on the beach. Cutbank planing was also done in order to determine the stratigraphic extent of the site.

Artifacts Recovered

The artifacts recovered from this site consist of 6 jasper flakes and 1 chert flake.

25HN154

Description and Condition of the Site

This upland site is a small lithic scatter located in Section A. It is situated southeast of the junction of two gravel roads. All of the artifacts recovered from the site were found in the backdirt of rodent burrows concentrated within a 5 square meter area. The site is covered with grasses with random open areas. The ground surface visibility is 20 percent, and the elevation is 1970 m.s.l. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The gravel roads that border the site seem to be infrequently used by the public. Thus, there is no apparent source of disturbance to the site.

Method of Collction

Because the ground surface visibility was so poor on the site, a patterned surface reconnaissance was not conducted. Each of the rodent burrows in the area was thoroughly checked for cultural material. The road cuts were also visually examined. An auger test and a shovel test were dug on the site.

Auger Test #1 was placed in the center of the artifact concentration, 79 meters east of the north-south road and 9 meters south of the east-west road. The pit was dug to 60 cm. and no cultural material was recovered.

Shovel Test #2 was placed 30 meters due south of Auger Test #1. It was dug to 65 cm. and no cultural material was recovered.

Artifacts Recovered

A total of 4 jasper flakes, 3 chert flakes and 1 jasper fragment were recovered from the site. No diagnostic cultural material was recovered.

25HN130

Description and Condition of the Site

This site is a camp which is located on the beach in Section A. A narrow jeep trail passes through the west side of the site area. The elevation of the site is 1938 m.s.l. and the ground surface visibility was 75 percent. The site was very wet, covered with small willows and tall weeds. The size of the site is 220 meters. The cultural affiliation of the site is Woodland, possibly Keith Focus.

Sources of Disturbance

The primary source of disturbance is continuing inundation and subsequent soil erosion and redeposition.

Method of Collection

Because the site was such a distance from the cutbank, ground surface reconnaissance was the only method utilized at the site. No subsurface testing was done due to the high moisture content.

Artifacts Recovered

The collection from the site included 1 jasper flake, 3 chert flakes, 3 jasper fragments, a chert fragment, 1 flint core and the base of a jasper base-notched projectile point (See Plate 4).

25HN148

Description and Condition of the Site

This camp site consists of two concentrations of artifactual material located on the beach in Section A. A known site, 25HN53, is in the vicinity of this site. Because of the impact of water action on archaeological sites, it is unknown whether this site is a part of 25HN53 or whether it is a unique site. It has been designated as a separate site for ease of interpretation, in addition to the visible break in the artifact distributions between this site and 25HN53. The site area has a ground surface visibility of 60 percent and an elevation ranging from 1940 to 1950 m.s.l. An abandoned railroad grade runs through the western portion of the site. The size of the western concentration of artifacts is 4800 square meters. The size of the eastern concentration of artifacts is 4000 square meters. Cultural affiliation could not be determined.

Sources of Disturbance

The primary source of disturbance to the site is erosion by

wave action. The eastern concentration of artifacts is subject to constant inundation by the lake. Other sources of disturbance to the site are pedestrian and vehicular traffic from the cabins and picnic area above the cutbank. Although the public has unlimited access to the site, there was no evidence of looting as there was at other sites. The third source of disturbance was the abandoned railroad grade which runs through the site. It's construction must have caused damage to the site.

Method of Collection

The primary method utilized on the site was ground surface reconnaissance. Although the surface visibility was not as good as at other sites, visual examination on hands and knees yielded a thorough surface inspection. The cutbank was examined along the site area but no cultural material was recovered. Because of the visible "break" in the artifact distributions between this site and 25HN53, it was thought unnecessary to do subsurface testing in order to make this confirmation.

Artifacts Recovered

Two jasper flakes, 1 chert flake, 1 flint flake, 1 jasper scraper and 1 jasper fluted/bifacially-worked knife were recovered (See Plate 7).

25HN149

Description and Condition of the Site

This small lithic scatter is located on the bank of an intermittent stream in Section A, exposed in sandy, eroded areas. It is a lithic scatter located in an area with ground surface visibility of 40 percent. The elevation at the site is 1950 m.s.l. The size of the site is 800 square meters. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The site is disturbed by inundation, erosion by wave action, and public use of the site area.

Method of Collection

Because the ground surface visibility at the site was poor, ground surface reconnaissance was minimal. There were open sandy areas which were thoroughly examined. The cutbank along North Cove, as well as the cutbank of the intermittent stream were examined. No cultural material was recovered. An auger test was placed at the center of the concentration at the confluence of the stream and North Cove. It was dug to 80 cm. No cultural material was recovered.

Artifacts Recovered

A total of 2 chert flakes were recovered from the site. Workable raw stone material was observed on the site, but it was not collected.

25HN150

Description and Condition of the Site

This upland site is located in Section A, exposed in a jeep trail. The site is a small lithic scatter situated 30 meters north of 25HN149. The ground surface visibility on the site is variable. On the trail, it is 100 percent while off the trail, in the wooded areas, it is reduced to 20 percent. The elevation at the site is 1970 m.s.l. and is 600 square meters in size. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The only sources of disturbance at the site are associated with the jeep trail including vehicular traffic and future maintenance.

Method of Collection

The length of the jeep trail was thoroughly examined. Because no other areas were conducive to visual examination, two auger tests were dug.

Auger Test #1 was placed 15 meters north of the trail and 15 meters east of the cutbank. It was dug to 70 cm. and no cultural material was recovered.

Auger Test #2 was placed 15 meters south of the jeep trail and 20 meters east of the cutbank. It was dug to 74 cm. and no cultural material was recovered.

Artifacts Recovered

One jasper flake, 1 chert flake, 2 flint f' s and 1 chert fragment were recovered from the site.

25HN161

Description and Condition of the Site

This site is a small upland lithic scatter located in Section A. The characteristics of this site are similar to 25HN160 except that the elevation of this site is 2000 m.s.l. and two flakes were found rather than one. The cultural affiliation

of the site is indeterminant.

Sources of Disturbance

The only sources of disturbance to the site are from cultivation and future maintenance of the road.

Method of Collection

The length of the road was visually examined, as well as any open areas within the vicinity of the site. A single auger test was dug.

Auger Test #1 was dug 5 meters west of the road to a depth of 65 cm. No cultural material was recovered from this pit.

Artifacts Recovered

Two jasper flakes were recovered from the site.

25HM160

Description and Condition of the Site

This site is a upland find spot located in Section A. The artifact was found in a dirt road. The road was not covered with gravel, thus, it is unlikely that the artifact was redeposited. On the east side of the road, the land is privately owned. On the west side, the area is in hay which reduced ground surface visibility to less than 5 percent. The elevation at the site is 2010 m.s.l. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The only sources of disturbance to the site come from cultivation and future maintenance of the road.

Method of Collection

In the surrounding areas, the ground surface visibility did not allow for visual examination of the surface. However, the road itself was visually examined as well as any open areas. A single auger test was dug at the site.

Auger Test #1 was placed 5 meters west of the road in the hay field. It was dug to 65 cm. and yielded no cultural material.

Artifacts Recovered

A single chert flake was recovered from the site.

25HN164

Description and Condition of the Site

This site is a small lithic scatter located along the beach in Section B. The ground surface visibility on the site is 95 percent and the elevation is 1943 m.s.l. This site is east and north of 25HN134. The artifactual materials collected were given separate site designations because of the lack of artifacts found between the two sites. That is, they appear to be unique concentrations of material that warrant division into separate site designations. The size of this site is 1000 square meters. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The only source of disturbance to the site is water action. There is some evidence of slumpage from the cutbank in addition to the churning of artifacts on the surface.

Method of Collection

Because the ground surface visibility was good, ground surface reconnaissance was conducted over the entire site. Additionally, the cutbank was examined and an auger test was dug.

Auger Test #1 was dug in order to determine the depth of the artifact concentration. It was placed in the approximate center of the artifact concentration. It was dug to 60 cm. and no cultural material was recovered.

Artifacts Recovered

One jasper flake, 1 chert flake, 1 flint flake, 1 schist flake, and 1 jasper fragment were recovered from the site.

25HN158

Description and Condition of the Site

This site is a small lithic scatter located in the uplands in Section B. The area is relatively uniform on a terrace above the lake. The campground is covered with grass leaving the ground surface visibility at less than 5 percent. The elevation of the site is 2000 m.s.l. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The site area may have been disturbed by the construction of the campground, or may be affected in the future by maintenance of the campground area. Additionally, the area is used by the public which may be a potential source of disturbance.

Method of Collection

All of the animal burrows in the vicinity were checked well as the roads surrounding the campground. A single test pit was dug on the site.

Test Pit #1 was placed 1 meter east of the location of the artifacts. The pit was dug to 37 cm. and no cultural material was recovered.

Artifacts Recovered

Two jasper flakes and 1 jasper fragment were recovered from the site.

25HM157

Description and Condition of the Site

This site is an upland find spot located in Section B. It was found below the picnic area atop the cutbank just north of a dirt path. The site area is covered with grasses making the ground surface visibility less than 20 percent. The visibility along the path is 100 percent. The elevation at the site is 1980 m.s.l. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

There was minimal evidence of rodent burrowing on the site. Also, there was some evidence of soil erosion off the cutbank.

Method of Collection

Ground surface reconnaissance was conducted along the dirt path but no cultural material was recovered. Each of the rodent burrows in the site area was examined, again, with negative results. A single auger test was placed on the site.

Auger Test #1 was placed less than 1 meter from the location of the surface find. The pit was dug to 90 cm. and yielded no cultural material.

Artifacts Recovered

A single jasper flake was recovered from the site.

25HM159

Description and Condition of the Site

This upland site is a find spot located in Section B. The

single artifact was recovered from an open spot which is surrounded by thick grasses. Ground surface visibility at the site is less than 5 percent. There is a ravine situated just north of the site and a gravel road to the north and west. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

There appear to be no potential sources of disturbance at this site.

Method of Collection

Because the site area was overgrown with random open spots, each of these spots was visually examined. Additionally, one auger test was dug on the site.

Auger Test #1 was placed 2 meters east of the flake recovered from the surface. It was placed there in order to verify the results of the surface reconnaissance. The pit was dug to 60 cm. and yielded no cultural material.

Artifacts Recovered

A single jasper flake was recovered from the site.

25HN156

Description and Condition of the Site

This site is a find spot in the upland in Section B. The general site area is in close proximity to a high pressure gas pipeline. The area appears to have been significantly disturbed by the construction of the line. The site is covered with heavy grasses making the ground surface visibility less than 20 percent. The elevation at the site is 2025 m.s.l. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The construction of the gas pipeline has either completely damaged an existing site which is now evidenced by only a single artifact, or the site consists of only a single artifact that the pipeline has not disturbed at all.

Method of Collection

Although the single artifact from this site was found on the surface, the ground surface visibility did not allow for adequate visual examination of the area. There were some rodent burrows that were examined but yielded no cultural material. No subsurface testing was done due to the close proximity of the pipeline.

Artifacts Recovered

A single jasper flake was recovered from this site.

25HM134

Description and Condition of the Site

This site is a habitation located on the beach in Section B. The cultural material was found scattered along the beach between the waterline and the cutbank. The elevation at the site is 1950 m.s.l. The ground surface visibility was 100 percent. The size of the site is 1600 square meters. This site has three natural boundaries. On the east and west sides, small inlets serve as site boundaries, and on the north side is a 40-foot cutbank. To the south is the waterline which currently serves as the southern site boundary. The site has been assigned to the Lost Creek Focus of the Upper Republican Aspect.

Sources of Disturbance

As with all of the beach sites, the primary source of disturbance is wave action and the "churning" effect that the water has on the beach. Additionally, the wave action is causing severe slumpage at the base of the cutbank.

Method of Collection

The primary method of collection was ground surface reconnaissance. No auger or shovel tests were dug. The cutbank was checked, but with a 40 foot bank, there was little chance of finding cultural material in the bottom 6 feet.

Artifacts Recovered

Thirty jasper flakes, 6 chert flakes, 1 quartz flake, 3 jasper fragments, 1 agate fragment, 1 smoothed body sherd, 2 cordwrapped body sherds and 2 bone fragments were recovered from the site.

25HM135

Description and Condition of the Site

This habitation site was located on the beach to the west of 25HM134, in Section B. All of the cultural material recovered came from the beach. Running parallel to the waterline was a "step" or old waterline that was 30 cm. in depth. The majority of the cultural material came from below the step as opposed to above it closer to the cutbank. Thus, the site probably extends into the water rather than back toward the cutbank. However, it

was not possible to verify this. The ground surface visibility on the beach below the step was 95 percent. Above the step, low cottonwoods lowered the ground surface visibility to 80 percent. The elevation at the site is 1950 m.s.l. The size of the site is 9700 square meters, and it has been assigned to the Lost Creek Focus of the Upper Republican Aspect.

Sources of Disturbance

The only source of disturbance at this site is wave action. There is evidence that the step is being gradually washed onto the beach and that the beach itself is subject to constant churning and redeposition.

Method of Collection

Initially, ground surface reconnaissance was done at the site. The surface visibility allowed for thorough examination. However, because of the density of artifacts recovered from the surface (226) it was decided to apply both the general transect method of ground surface reconnaissance and the spot/transect method as outlined in the field methodologies above. Twenty-six transects were placed along the beach from east to west which covered both 25HN135 and 25HN136. Each of these transects were 25 meters apart. The extent of 25HN135 ranged from Transect #3 to Transect #18. This same area was then examined from west to east. Artifacts were collected from within the transects (general transect method). The cumulative results of both the transect methods are outlined in Figure 8.

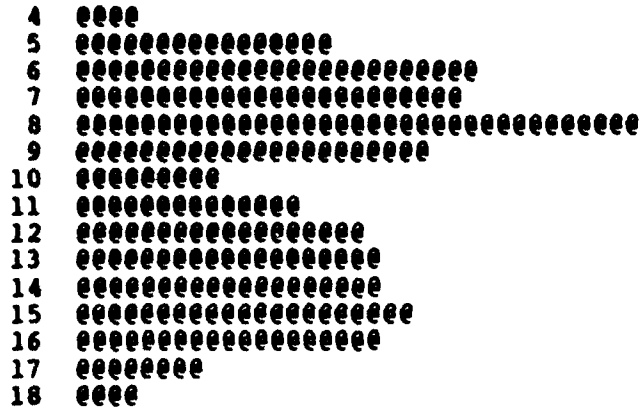
An auger test was dug on the step but the pit filled with water at 50 cm. No cultural material was recovered. The cutbank was checked but no cultural material was recovered.

Artifacts Recovered

Artifacts recovered from the surface include 54 jasper flakes, 94 chert flakes, 6 flint flakes, 5 jasper fragments, 8 chert fragments, 28 cordwrapped body sherds, 24 cordwrapped/smoothed body sherds, and 7 bone fragments. Artifacts recovered from the transect methods included 375 jasper flakes, 1 chert flake, 2 flint flakes, 1 obsidian flake, 41 jasper fragments, 3 flint fragments, 1 chalcedony fragment, 43 cordwrapped body sherds, 12 cordwrapped/smoothed body sherds, 4 bone fragments, and 2 tooth fragment and 1 historic ceramic sherd (See Plate 5).

FIGURE 8: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HM135



@ = 2 ARTIFACTS

4-18 = TRANSECT NUMBERS

25HN136

Description and Condition of the Site

This is a habitation site located in Section B. All of the cultural material recovered came from the beach. This site is similar to 25HN134 and 25HN135 in that they are all beach sites with the cultural material recovered primarily along the waterline rather than toward the cutbank. It should be noted here that 24HN135 is adjacent to this site. However, the natural "break" in the concentration of artifacts, and the fact that the break occurred at the mouth of the small inlet, lead us to believe that they are two distinct sites. The elevation at the site is 1950 m.s.l. and the ground surface visibility is 95 percent. The size of the site is 8000 square meters. The cultural affiliation of the site has been determined to be Upper Republican Aspect. (A few apparently intrusive sherds of Dismal River ceramics were also recovered.)

Sources of Disturbance

The public has limited access to this site except by foot. Thus, the primary source of disturbance is water action. The churning and redeposition of the beach in addition to the slumpage of the cutbank exemplify the destructive ability of wave action (See Plate 19).

Method of Collection

As stated earlier, the stretch of beach where 25HN135 and 25HN136 are located was surveyed utilizing surface reconnaissance, general transect surface reconnaissance, and the spot/method of surface investigation. The transects that represent this site are Transects #19 through Transect #26. The cutbank was examined but no cultural material was recovered. Because of the intensity of the surface examination, no subsurface pits were dug at the site.

Artifacts Recovered

The general surface collection at the site yielded 6 jasper flakes, 8 chert flakes, 1 jasper fragment, 1 cordwrapped body sherd, 3 bone fragment, and 1 tooth fragment. Both of the transect methods of surface collection yielded 542 jasper flakes, 17 flint flakes, 27 chert flakes, 2 chalcedony flakes, 1 obsidian flake, 38 jasper fragments, 2 chert fragments, 1 chalcedony fragment, 1 jasper blade, 1 jasper burin, 1 jasper preform, 64 cordwrapped body sherds, 13 cordwrapped/smoothed body sherds, 2 split body sherds, 1 plain body sherd, 1 smoothed body sherd, 1 trailed rim sherd, 1 plain rim sherd, 1 smoothed rim sherd, 28 bone fragments, 4 tooth fragments, a rodent jaw with teeth, and 1 bead. See Figure 9 for the frequency and distribution of artifacts by transect.

FIGURE 9: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HN136

@ = 4 ARTIFACTS

19-26 = TRANSECT NUMBERS

25HN137

Description and Condition of the Site

This is a beach habitation site located in Section B. This site exhibited an isolated concentration of artifactual material which, again, justified its exclusion from 25HN136. The ground surface visibility at the site is 80 percent with heavier stands of cottonwood trees and reeds. The size of the site is 3000 square meters. Recovered material indicates a cultural affiliation of Lost Creek Focus, Upper Republican Aspect.

Sources of Disturbance

Water action is the primary source of disturbance at the site.

Method of Collection

Ground surface reconnaissance was done at the site in addition to extensive cutbank planing. No cultural material was recovered from the cutbank at the site. An auger test was done at the site in the approximate center of the concentration. It was dug midway between the waterline and the cutbank to a depth of 50 cm. No cultural material was recovered.

Artifacts Recovered

Fifteen jasper flakes and 10 chert flakes, some of which were utilized, 1 jasper side-scraper, 1 chert knife, 1 flint core, 1 chert preform, a jasper corner-notched projectile point, 4 cordwrapped body sherds and 3 large bone fragments were recovered (See Plate 6).

25HN138

Description and Condition of the Site

This small lithic scatter is located in Section B. It yielded a single lithic artifact in addition to what appears to be a mastadon toe bone. The ground surface visibility at the site was 95 percent near the waterline and 60 percent closer to the cutbank. The elevation at the site is 1950 m.s.l. and the size of the site is unknown. The cultural affiliation is possibly Paleo-Indian.

Sources of Disturbance

The site is accessible to the public by foot, but there is minimal evidence that this has had an impact on the site. Wave action, however, is churning the surface of the beach as well as causing slumpage off the cutbank.

Method of Collection

Ground surface reconnaissance was conducted over the site and the surrounding area of the beach. Because of the recovery of the mastadon bone on the beach, the cutbank was thoroughly examined for additional information. No cultural material was recovered from the site.

Artifacts Recovered

A single jasper flake and a mastadon toe bone were recovered.

25HN139

Description and Condition of the Site

This is a beach habitation site located in Section B. The lack of cultural material for approximately 300 meters from 25HN138 warrented the inclusion of these artifacts in a separate site designation. The surface visibility at the site was 95 percent with scattered cottonwood and linden trees. The elevation at the site is 1946 m.s.l. The size of the site is 4000 square meters. The cultural affiliation of the site is Lost Creek Focus, Upper Republican Aspect.

Sources of Disturbance

As with most of the beach sites, water action and slumpage of the cutbank are the primary sources of disturbance.

Method of Collection

Because the surface visibility at the site was good, ground surface reconnaissance was conducted. An auger test was dug on the site 15 meters out from the cutbank. It was dug to a depth of 50 cm. and no cultural material was recovered. Additionally, the cutbank was thoroughly checked with negative results.

Artifacts Recovered

The total collection from this site included 4 jasper flakes, 1 chert flake, a jasper fragment, 1 flint turtleback scraper, 1 cordwrapped body sherd, and a bone fragment.

25HN140

Description and Condition of the Site

This site is very similar to 25HN137, 25HN138, and 25HN139. It is a habitation site on the beach in Section B. It is separated from 25HN139 by more than 300 meters. The ground

surface visibility at the site was 95 percent with scattered cottonwood and linden trees. The elevation at the site is 1952 m.s.l. and the size of the site is 3000 square meters. The cultural material recovered indicates that the site belongs to the Medicine Creek Focus of the Upper Republican Aspect.

Sources of Disturbance

Water action and slumpage of the cutbank seem to be the primary sources of disturbance on the site.

Method of Collection

Ground surface reconnaissance was conducted over the site. The cutbank was checked for cultural material with negative results. An auger test was dug on the site 20 meters from the cutbank to a depth of 65 cm. No cultural material was recovered.

Artifacts Recovered

The collection consisted of 2 jasper flakes, 1 chert flake, 1 jasper fragment, 1 jasper knife, 1 cordwrapped/smoothed body sherd, 3 cordwrapped body sherds, 1 trailed/cordwrapped rim sherd, and a bone fragment (See Plate 6).

25HN141

Description and Condition of the Site

This site is located in Section B between 25HN140 and 25HN142. Like many of the other sites discussed above, this site is a small lithic scatter located on the beach with ground surface visibility of 85 percent. The elevation at the site is 1950 m.s.l. and the size of the site is 2400 square meters. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

Again, wave action and erosion from the cutbank are the primary sources of disturbance.

Method of Collection

Ground surface reconnaissance was done over the entire site. Additionally, the cut bank was carefully examined with negative results. No auger test was dug at this site.

Artifacts Recovered

The collection from this site includes 2 jasper flakes, 2 chert flakes, 1 schist flake, 1 flint fragment and 1 chert fragment.

25HM142

Description and Condition of the Site

This site is a habitation site located on the beach in Section B. The ground surface visibility at the site is 90 percent with a few scattered linden and cottonwood trees. The elevation at the site is 1948 m.s.l. The size of the site is 3200 square meters. The artifacts recovered from the site were randomly scattered between the edge of the water and the cutbank. The cultural affiliation of the site is Lost Creek Focus, Upper Republican Aspect.

Sources of Disturbance

As with all of the other beach sites, the primary source of disturbance is water action.

Method of Collection

Because of the good ground surface visibility on the site, ground surface reconnaissance was the primary method of site location. The cutbank was thoroughly checked within the site area and no cultural material was recovered.

Artifacts Recovered

A total of 5 jasper flakes, 1 chert flake, 13 cordwrapped body sherds and 1 split body sherd were collected from the site. No stone tools were found.

25HM173

Description and Condition of the Site

This upland site is a find spot located in Section B. One artifact was recovered from the highest point in the road at an elevation of 2010 m.s.l. The road is compacted by vehicle traffic with a surface visibility of 100 percent. The surrounding area is covered with grasses and weeds with a surface visibility of 10 percent. The cultural affiliation of this site appears to be Upper Republican.

Sources of Disturbance

The primary source of disturbance is vehicle traffic on the road.

Method of Collection

The length of the road was examined, as were the road cuts. One shovel test was dug.

Shovel Test #1 was placed west of the road, 10 meters from the location of the artifact. It was dug to 55 cm. and no cultural material was recovered.

Artifacts Recovered

A single jasper projectile point was recovered from the site. The point had a partially broken base and a broken tip (See Plate 7).

25HM124

Description and Condition of the Site

This upland camp is located in Section B. Flakage was recovered in the road for 200 meters. The ground surface visibility in the areas adjacent to the road was less than 5 percent. On the road, the visibility was 80 percent. The size of the site is 600 square meters. Culural affiliation at this site is indeterminant.

Sources of Disturbance

The area is subject to heavy vehicular traffic into the picnic area.

Method of Collection

Three hundred meters of the road were surface collected. Because the surrounding area was covered, auger testing was done.

Auger Test #1 was placed west of the branch in the road, within the circular drive. It was dug to 60 cm. and no cultural material was recovered.

Auger Test #2 was placed 7 meters west of the road and 40 meters south-southwest of Auger Test #2. It was located adjacent to the heaviest concentration of artifacts recovered from the road. The pit was dut to 50 cm. and no cultural material was recovered.

Auger Test #3 was placed 37 meters east of Auger Test #1 approximately 6 meters north of the road. This pit was dug to 60 cm. and no cultural material was recovered.

Artifacts Recovered

A total of 8 jasper flakes, 2 chert flakes, and the base of a broken jasper knife were recovered from the site (See Plate 3).

25HM125

Description and Condition of the Site

This upland habitation site is located in Section B. All of the cultural material that was recovered from the site came from the cutbank at a depth of 20 cm. to 30 cm. from the surface. A single flake was found above the cutbank on the south side of the site. Because the site had no surface manifestations, its size was difficult to determine. Although shovel tests were dug with negative results, the site may extend east into the picnic ground or it may have already been washed away by wave action. The cultural affiliation of the site is indetrminant.

Sources of Disturbance

There was some evidence of erosion by water action. Additionally, the close proximity of the site to the campground may be a potential source of disturbance.

Method of Collection

Cutbank planing was the primary method utilized at this site. A thorough visual investigation was done. In order to determine if the site had already been washed away or if it extended east into the campground, two shovel tests were dug above the cutbank. Additionally, horizontal columns of soil were drawn from the cutbank but these were of no use in determining the nature and extent of the site.

Shovel Test #1 was dug north of the circular turn-around. It was placed 10 meters from the present edge of the cutbank and was dug to 80 cm., but yielded no artifactual material. However, in the sixth level (50 cm. to 60 cm.), minute bits of charcoal were observed, none large enough to recover.

Shovel Test #2 was dug in the approximate center of the projection at the conjunction of the circular turn-around and the main road. It was dug to 50 cm. and yielded no evidence of cultural material.

Artifacts Recovered

In all, 18 jasper flakes, 7 chert flakes, one cordwrapped/smoothed body sherd, 2 jasper fragments and 1 jasper scraper were recovered from the cutbank. A single jasper flake was recovered from above the cutbank.

25HM117

Description and Condition of the Site

This site is a small upland lithic scatter located in

Section C. The artifacts from this site were recovered from the gravel road cuts, approximately 30 meters from the cutbank. The artifacts from the site were found in a very constricted area (3 meters square). Thus, it is possible that the artifacts were brought in with the gravel for road construction or maintenance. The elevation at the site is 1953 m.s.l. Because the site was restricted to the road, the ground surface visibility was 100 percent. In the surrounding grassy areas, the visibility was less than 10 percent. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

Potential sources of disturbance include vehicular traffic, and there is some evidence of erosion off the cutbank to the south and east of the site.

Method of Collection

The length of the road was visually examined and two auger tests were dug. The cutbank was thoroughly examined to the east and south of the site. No cultural material was recovered.

Auger Test #1 was dug 15 meters east of the artifact concentration in the road. The pit was dug to 60 cm. and no cultural material was recovered.

Auger Test #2 was dug 15 meters south of the artifact concentration, approximately midway between the road and the cutbank. This pit was dug to 65 cm. and no cultural material was recovered.

Artifacts Recovered

Two chert flakes were recovered from the site.

25[redacted]118

Description and Condition of the Site

This possible habitation site is located on the beach in Section C. Although the artifacts recovered from the site are relatively scarce, it has been classified as a habitation site because of the ceramic sherd and the tool that were recovered, in addition to the burials of at least three individuals. The site yielded artifactual material along the cutbank and 10 meters onto the beach. The site area is covered with willow and cottonwood trees. The elevation at the site is 1935 m.s.l. to 1950 m.s.l. and the size of the site is approximately 500 square meters. Analysis of the recovered cultural materials did not allow a detemination of cultural affiliation to be made.

During the fall of 1980, the site was again examined in

order to determine whether or not it was the source of human bones as reported to Corps of Engineers personnel. The bones were eroding from a beach step (15-20 cm.) at an elevation of 1935 m.s.l. and were found at a depth of 5-20 cm. from the surface. This was approximately 5 feet below the waterline during the 1979 survey. The step was examined for 50 meters both north and south of the exposed bones. The area between the bones and the cutbank was also examined in order to determine if a surface scatter of cultural material could be observed from the location of 25HN118 to the eroding bones. However, no artifactual materials were observed between the cutbank and the bone deposits. The bones protruded from a 1-meter area along the step and bone fragments were observed scattered on the beach below the step. The bones observed eroding from the step and scattered on the beach included long bones, skull fragments, teeth, and numerous unidentifiable bone fragments.

An area 10 meters in diameter was examined with the soil probe. One obstacle was encountered and a shovel test (Test Pit #3) was placed at this location. Two other shovel tests were also placed on the site.

Corps of Engineers archaeologists attempted to rescue these remains in December, 1980. Accordingly, many of the bones were mixed but one individual could be distinguished. Not enough identifiable material was recovered to determine sex, but the individual was a small, gracile adult in a flexed position lying on its left side. A large shell was placed over its right shoulder and a broken biface and bits of red ochre were found in the face and hands area. Evidence of disease (osteomyelitis ?) was present in several of the long bones.

Sources of Disturbance

The greatest source of disturbance in this area is erosion and redeposition of cultural material from wave action. Additionally, because the site is in close proximity to a picnic area, there is potential for public vandalism.

Method of Collection

The primary method of collection at the site was surface reconnaissance. The cutbank was thoroughly examined. No auger tests or test pits were initially dug at the site. However, in 1980, three test pits were placed on the site in the vicinity of the eroding bones.

Test Pit #1 was placed 1 meter east of the exposed bones below the step. The pit filled with water at 40 cm. No cultural or osteological material was recovered.

Test Pit #2 was placed 2.5 meters west-northwest of the exposed bones on top of the step. It was dug to 40 cm. and no cultural or osteological material was recovered.

Test Pit #3 was placed 1.5 meters north-northwest of the exposed bones at the point where the soil probe encountered an obstacle. This pit was dug with trowels rather than shovels in order to avoid possibly damaging another burial. The top of a skull and one long bone were uncovered at 10 cm. The bones were immediately adjacent to each other. The bones were left in place and the pit was closed.

Artifacts Recovered

The artifacts recovered from the site include 6 jasper flakes, 1 chert flake, 1 jasper scraper, and 1 cordwrapped/smoothed body sherd. Several complete human bones as well as fragments of bone were observed 35 meters east of the cultural material buried in a shallow step. The cultural material was recovered but the osteological remains were left in place.

25[redacted]120

Description and Condition of the Site

This site is a small upland lithic scatter located in Section C. The road leading to the general site area is completely overgrown and the surrounding area is also heavily overgrown. In addition to the lithic scatter from the site, two foundations were located. These are probably from buildings used by the Group Camp. They were both 30.75 meters by 11.75 meters and were 16 meters apart. The artifacts from the site were found west and south of the foundations. The size of the site is approximately 280 square meters. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

The site has been disturbed by the construction and maintenance of the Group Camp and the road leading into the camp. Additionally, animal burrowing was prevalent on the site.

Method of Collection

Because the ground surface visibility was less than 1 percent, only the open animal burrows could be visually checked. All of the artifacts recovered from the site came from the backfill of animal burrows which suggests that the site may be buried. Thus, two auger tests were dug at the site.

Auger Test #1 was dug in the center of the artifact concentration on the site. It was dug to 50 cm. and yielded no cultural material.

Auger Test #2 was dug between the two foundations to a depth of 45 cm. Again, no cultural material was recovered.

Artifacts Recovered

A total of 4 flakes (2 chert and 2 jasper) were recovered from the surface at the site.

25BM119

Description and Condition of the Site

This large upland lithic scatter was located in Section C. Single artifacts were recovered from the camping pods and along the gravel road. Additional cultural material was recovered from the cutbank and the beach extending out to the waterline. The majority of the artifacts were recovered from the beach at an elevation of 1948 m.s.l. but a few of the flakes were recovered in the campground at an elevation of 1960 m.s.l. The ground surface visibility at the site was 15 percent in the campground and 95 percent on the beach. The size of the site is 1650 square meters. The cultural affiliation of this site is indeterminant.

The site was revisited in 1980 in order to determine whether or not it was the source of human bones as reported to the Corps of Engineer personnel. The entire site area was examined. Additional flakage was observed above, in, and below the cutbank as in 1979. However, no human bones were located at the site.

Sources of Disturbance

Potential sources of disturbance are the construction and maintenance of the campground and water action on the beach. Additionally, there was evidence of slumpage off the cutbank.

Method of Collection

In the campground, all of the open areas were visually examined. On the beach, the surface was thoroughly examined. The cutbank was examined with some difficulty due to slumpage. Three flakes were recovered from the cutbank, but their depth is an estimate because of slumpage. Finally, two test pits were dug at the site.

Test Pit #1 was dug on the beach in the approximate center of the concentration of artifacts. It was dug to 50 cm. and a flake was recovered at 10 cm. from the surface. No other cultural material was recovered.

Test Pit #2 was dug above the beach 57 meters north of Test Pit #2, in the southern portion of the campground. This pit was dug to 50 cm. and no cultural material was recovered.

Artifacts Recovered

Twenty-seven jasper flakes and 1 chert flake were recovered

during surface reconnaissance.

25HN122

Description and Condition of the Site

This upland camp site is located in Section C. Cultural material was recovered from the campground road, in the cutbank at a depth of 90-140 cm. from the surface, and on the beach. The elevation at the site is 1950 m.s.l. (on top of the cutbank). The ground surface visibility was low in the campground. The visibility of the cutbank was 100 percent and the beach was covered with very sparse sunflowers. The size of the site is 300 square meters. The cultural affiliation of this site appears to be Upper Republican Aspect.

Sources of Disturbance

Erosion has been the most destructive source of disturbance. The Corps of Engineers has placed riprap along the base of the cutbank, but it has not been effective in controlling the erosion of soil from the cutbank.

Method of Collection

Visual examination was done along the road in the campground as well as on the beach. The surface reconnaissance on the beach was done very thoroughly, at an interval of less than 15 meters. The cutbank was also carefully scrutinized. The lack of fallen trees or vegetal cover allowed for complete inspection of the cutbank. Because of the good surface visibility on the beach and the cutbank, no subsurface testing was done.

Artifacts Recovered

Thirty-four jasper flakes, 5 chert flakes and 1 quartz flake were recovered. A jasper side-notched projectile point was found in the cutbank at a depth of 30 cm., a bone awl, 4 bone fragments and 2 shell fragments were recovered from the cutbank at depths of 90 cm. to 140 cm.

25HN123

Description and Condition of the Site

This site is a medium lithic scatter which is similar to 25HN122 in its description and condition. It is located just west of 25HN122 in Section C. Artifacts were recovered from the campground and the beach. The elevation and approximate ground surface visibility were the same for 25HN122 as for 25HN123. The size of the site is 200 square meters. The cultural affiliation

of this site is indeterminant.

Sources of Disturbance

As with 25HN122, the primary source of disturbance is erosion as a result of wave action. The riprap that has been utilized along this site has apparently not been effective in checking the "gouging" of the cutbank caused by the wave action.

Method of Collection

Again, visual examination of the road in the campground and the beach were the primary methods utilized. The cutbank was thoroughly examined.

Artifacts Recovered

The artifacts recovered from this site consist of 12 jasper and 2 chert flakes.

25HN121

Description and Condition of the Site

This large lithic scatter is located on the beach in Section C. Cultural material was recovered on the beach on both sides of a public boat ramp to the lake. The elevation of the site is between 1945 m.s.l. and 1950 m.s.l. Ground surface visibility above the cutbank is 45 percent and near 90 percent on the beach. The size of the site is unknown. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

The asphalt road and circular drive have disturbed the site as has the construction of the boat ramp. Additionally, there is some evidence of erosion off the cutbank onto the beach.

Method of Collection

The surface of the beach and the area above the cutbank as well as the cutbank were visually examined. Two test pits were also dug at the site.

Test Pit #1 was dug above the cutbank on the east side of the road. It was dug to 50 cm. and no cultural material was recovered.

Test Pit #2 was dug closer to the edge of the cutbank on the west end of the artifact concentration. This pit was dug to 55 cm. and no cultural material was recovered.

Artifacts Recovered

The collection from this site consists of 61 jasper flakes, 2 jasper fragments, 2 jasper scrapers and 1 bone fragment.

25HN168

Description and Condition of the Site

This small lithic scatter consists of two artifacts recovered from the beach in Section C, at an elevation of 1940 m.s.l. The ground surface visibility on the site is 100 percent on the beach and 35 percent back toward the cutbank. Both of the artifacts were recovered within 10 meters of the waterline (1938.48 m.s.l.), 50 meters apart. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

The primary source of disturbance at the site is water action.

Method of Collection

The ground surface visibility allowed for thorough examination of the beach. Toward the cutbank, the visibility was reduced not allowing for adequate visual examination. The cutbank in the vicinity was checked for cultural materials and one auger test was dug.

Auger Test #1 was placed 10 meters from the cutbank. It was dug to a depth of 60 cm. and no cultural material was recovered.

Artifacts Recovered

Two jasper flakes were recovered from the site.

25HN169

Description and Condition of the Site

This site is a find spot located on the beach in Section C. The flake was found within 10 meters of the waterline which was at an elevation of 1938.64. The ground surface visibility at the site was 100 percent and the elevation is 1945 m.s.l. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

The primary source of disturbance to the site is water action. There appears to be some slumpage of the cutbank in this

area due to water action.

Method of Collection

Because the ground surface visibility on the site, as well as the surrounding stretches of beach, was 100 percent, ground surface reconnaissance was conducted over the entire area. The cutbank was also checked but no cultural material was recovered. No shovel tests or auger tests were dug on this site.

Artifacts Recovered

A single jasper flake was recovered from the site.

25HN147

Description and Condition of the Site

This habitation site is located in Section C. The site was located on the mud flat along the waterline. It should be noted here that the pool elevation at the time the site was located was 1938.64 m.s.l. Thus, on the U.S.G.S. topographic maps, it appears that the site was located in the water. It was located at an elevation of 1939 m.s.l. extending for 50 meters along the waterline. All of the artifacts were recovered from within 10 meters of the waterline. The ground surface visibility on the site was 80 percent with scattered weeds and willows. The size of the site is 500 square meters. Cultural affiliation could not be determined from recovered cultural material.

Sources of Disturbance

Because the elevation at the site and the surrounding area is so low, it is frequently subject to complete inundation.

Method of Collection

The site was thoroughly examined visually. An attempt was made to dig an auger test, but the pit rapidly filled with water, not allowing for adequate examination of the subsurface of the site.

Artifacts Recovered

A total of 2 flint flakes, 1 flint fragment and 1 cord-wrapped body sherd were recovered from this site.

25HN170

Description and Condition of the Site

This site is a small lithic scatter located on the mud flat in Section C. For most of the year, it is inundated because the elevation at the site is 1939 m.s.l. The vicinity of the site was very wet and covered with low weeds. The ground surface visibility was 50 percent. The two artifacts that were recovered from the site were found 90 meters apart. This site, as well as 25HN147 to the east, may represent the northern boundary of the same site which has been inundated by the reservoir. It is well beyond the scope of this project to make that determination. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

The major source of disturbance at the site is inundation when the water level is above 1939 m.s.l. and wave action when the pool level drops below. Additionally, there were numerous pieces of historic debris in the area, consisting of glass, cans, etc. When the water level is low enough to expose the site, pedestrian traffic may be a potential source of disturbance to the site.

Method of Collection

Because the artifacts were found at such a low elevation in relation to the water level, ground surface reconnaissance was the only method of collection utilized.

Artifacts Recovered

One jasper flake and 1 chert flake were recovered from the site.

25HN153

Description and Condition of the Site

This upland site is a medium lithic scatter located in Section C. Artifactual material was recovered from the gravel road to a depth of 20 cm. Additionally, the depth of the gravel fill correlated with the recovery of artifacts. No additional cultural material was recovered from outside of the roadcut. It is our opinion that the artifacts were brought in with the gravel fill that was used to cover the roadcut. However, we have chosen to give the artifacts a site number and catalogue them in the context of this report. By so doing, the State Historic Preservation Office has the option of maintaining the site records or assigning a different site to this number. In any case, the recovery of these artifacts may aid in the location of other sites. If the source of the gravel fill can be obtained,

it is possible to determine whether the fill operations on federal property are disturbing archaeological resources. For this reason alone, these artifacts should be maintained in the state records. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

Potential sources of disturbance to this site exist only in the form of future gravel operations conducted for routine road maintenance.

Method of Collection

The entire length of the road was visually examined. Also, by using a trowel, additional artifacts were recovered from the top 20 cm. of gravel fill. Two test pits were dug at the site.

Test Pit #1 was dug 3 meters east of the road where the artifacts had been recovered. It was dug to 50 cm. and no cultural material was recovered.

Test Pit #2 was dug 15 meters southwest of Test Pit #1, 2 meters from the road. It was dug to 50 cm. A flake was recovered at 22 cm. which again corresponds to the depth of fill at the site.

Artifacts Recovered

The majority of artifacts recovered from the site were flakes, some of which were utilized. Also, there were numerous fragments of raw flint which had no evidence of working or utilization. In total, 1 jasper flake, 8 chert flakes, 5 flint flakes, 1 jasper fragment, 5 chert fragments and 1 chert core were recovered from the site.

25[redacted]116

Description and Condition of the Site

This site is a small upland lithic scatter located in Section C. Artifacts were recovered from the west side of a small rise. Because soil erosion from the rise was evident, it appears that the original deposition of the site was on the top of the rise. There is another shallow rise to the west, and between the two rises there is disturbance from the installation of a drainage culvert. The elevation at the site is 1970 m.s.l. and the ground surface visibility is approximately 3 percent except for the gravel road which runs through the site. The size of the site is approximately 50 square meters. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

The sources of disturbance at this site include maintenance of the gravel road, vehicular traffic, and maintenance of the drainage culvert to the west of the site.

Method of Collection

Ground surface reconnaissance was done along the length of the road and two auger tests were dug south of the road.

Auger Test #1 was dug 25 meters south of the road off the rise. The auger test was dug to 65 cm. and no additional cultural material was recovered.

Auger Test #2 was dug 12 meters south of the road and 51 meters from Auger Test #1 on the rise. This pit was dug to a depth of 50 cm. and again, no additional cultural material was recovered.

Artifacts Recovered

A total of 4 chert flakes and 2 jasper flakes were recovered from the site.

25[redacted]167

Description and Condition of the Site

This small lithic scatter consists of two artifacts recovered from the beach in Section D. The artifacts were found immediately adjacent to the waterline at an elevation of 1938.48 m.s.l. The surrounding area is covered with heavy weeds and cottonwood trees making the ground surface visibility 30 percent. Because the artifacts were found within 3 meters, no estimate of site size can be made. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

The primary source of disturbance to the site is water action. It is possible that the artifacts were eroded down from the cutbank or churned from below the waterline onto the beach.

Method of Collection

The site area as well as the cutbank was visually examined. However, no subsurface testing was done at the site because any attempts to dig a pit would have filled with water.

Artifacts Recovered

Two chert flakes were recovered from the site.

25HM166

Deacription and Condition of the Site

This site is a small lithic scatter found on the beach along the waterline (1938.48 m.s.l.) in Section D. The elevation of the site is 1939 m.s.l. and the ground surface visibility is 95 percent. There was a light scatter of shale fragments on the site which had been washed from the cutbank. The size of the site is 130 square meters. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

Because the artifacts were recovered along the waterline, it is possible that water action has either washed the material onto the beach from an inundated site, or has churned the material already on the beach. In any case, water action has had an impact on the site.

Method of Collection

Ground surface visibility allowed for complete visual examination of the site. The cutbank was also checked but with negative results. No auger tests were dug along the water line, but in order to determine if the artifacts had washed onto the beach from an inundated site, or had been washed onto the beach from the cutbank, two auger tests were dug.

Auger Test #1 was dug midway between the waterline and the cutbank. It was dug to 55 cm. and yielded no cultural material.

Auger Test #2 was dug 10 meters from the cutbank to a depth of 50 cm. Again, no cultural material was recovered.

Artifacts Recovered

A total of 4 jasper flake and 3 chert flakes were recovered from the site.

25HM143

Deacription and Condition of the Site

This site is located in Section D. It is a medium lithic scatter located entirely on the beach. The artifacts recovered from the site were found along a 350 meter stretch of beach at an elevation ranging from 1940 to 1942 m.s.l. The width of the beach from cutbank to waterline varied from 15 meters to less than 3 meters. The ground surface visibility on the site was 95 percent with scattered cottonwood trees and sparse weeds. The size of the site is approximately 7000 square meters. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

The primary source of disturbance at the site is water action. However, there is a jeep trail running the length of the site which possibly causes some disturbance to the site.

Method of Collection

The ground surface visibility allowed for thorough visual examination of the surface of the site. The cutbank was checked the entire length of the site but no cultural material was recovered. Additionally, the grassy areas above the cutbank were checked and there appears to be no evidence of the site there. Thus, it is apparent that the site is not washing down from the cutbank onto the beach. Rather, it is either washing onto the beach via wave action, or it was located at the original point of deposition. Two auger tests were dug at the site.

Auger Test #1 was placed 5 meters from the cutbank in the approximate center of the site. It was dug to 50 cm. and no cultural material was recovered.

Auger Test #2 was placed on the western side of the inlet of Coyote Canyon 10 meters from the beach. The pit was dug to 45 cm. and no cultural material was recovered.

Artifacts Recovered

This site yielded 4 jasper flakes, 8 chert flakes, 1 chert fragment, a jasper thumbnail scraper and 2 bone fragments (non-human).

25MN165

Description and Condition of the Site

This site is a small lithic scatter found along the beach in Section D. Two flakes were found on the beach 10 meters apart. A bone fragment was also recovered. Cottonwood trees and weeds are scattered over the site making the ground surface visibility 60 percent. The elevation of the site is 1940 m.s.l. The size of the site is 150 square meters. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

There is a jeep trail running along the beach which could potentially damage the site. Additionally, water action over the site has caused churning and slumpage of the cutbank.

Method of Collection

The ground surface visibility on the site was did not allow

for complete coverage of the site. Thus, an auger test was dug. The cutbank was approximately 40 feet high, sloping down to the beach. The base of the cutbank was checked, but no evidence of cultural material was recovered.

Auger Test #1 was placed between the locations of the two flakes. It was dug to 70 cm. and no cultural material was recovered.

Artifacts Recovered

One jasper flake, 1 chert flake and 1 bone fragment (non-human) were recovered from this site.

25MM131

Description and Condition of the Site

This site is a large lithic scatter located on the beach in Section D. The artifacts that were recovered were located in close proximity to a sand and shale bar that formed as a result of erosion from the cutbank and accumulation of sand from wave action. The artifacts were widely dispersed, covering a linear area of one-half mile. No artifacts were recovered from the beach near the cutbank nor in the cutbank itself. Thus, this site was probably a very small site which has entirely washed out of the cutbank and only a few manifestations of the site remain on the beach. The original size and the cultural affiliation of the site are indeterminant.

Sources of Disturbance

If the area of original deposition has not been completely destroyed, it is likely that soil erosion from the cutbank and subsequent redeposition from wave action might, in a short time, completely destroy the site.

Method of Collection

Because the surface visibility on the site was 100 percent, ground surface reconnaissance was utilized. No shovel or auger tests were dug. The cutbank was checked for confirmation as to the original deposition of the site (whether it was washed out of the cutbank, or whether it was deposited on the beach as a result of wave action). No cultural material were observed in the cutbank.

Artifacts Recovered

The collection from this site contains 11 jasper flakes, 37 chert flakes, 5 flint flakes, 4 chert fragments, 1 flint fragment, 1 chert scraper, and a bone fragment.

25HN132

Description and Condition of the Site

This site is a habitation which is located on the beach west of 25HN131 in Section D. There is a jeep trail running onto the west end of the site. Cultural material was recovered from the waterline to the cutbank, but the majority of the artifacts came from the jeep trail. In the inlet at the west edge of the site, a large quantity of historic debris was noted. Material observed included a large number of bricks and mortar, a foundation, numerous pieces of crockery, porcelain, and recent historic debris including glass, cans, and metal. A large reddish discoloration was found on the beach extending 30 meters out of the inlet. Bricks were found on the jeep trail and extending into the cutbank. The abundance of historic debris suggests that there was an historic structure in the vicinity. The ground surface visibility on the site was 100 percent and the elevation of the site was 1945 m.s.l. The size of the site is 540 square meters excluding the areas of historic debris. The cultural affiliation of the site appears to be Upper Republican.

Sources of Disturbance

The primary source of disturbance to the site is wave action. The recent historic debris the area indicates that the site area is used by the public, which might potentially be another source of disturbance.

Method of Collection

The primary method of collection was ground surface reconnaissance. The visibility was 100 percent, allowing for a complete and thorough examination of the surface. Cutbank planing was also done at the site. However, no additional cultural material was recovered.

Artifacts Recovered

In total, 5 jasper flakes, 6 chert flakes, 1 flint flake, 1 jasper fragment, 1 chert fragment and a large cordwrapped body sherd were recovered from the site. An additional 20 flakes were observed later but not collected.

25HN133

Description and Condition of the Site

This site is similar to 25HN132. It is a camp found on the beach in Section D. The site has a jeep trail running through the length of the site and most of the artifacts were recovered from the trail. The ground surface visibility on the site was 100 percent. The elevation at the site is 1940 m.s.l. Public

use of the area is evidenced by broken glass, beer bottles, and discarded fishing equipment. The beach was littered with shale fragments that had washed out of the cutbank. Thus, the ground surface visibility was approximately 90 percent. The artifacts were recovered from a 615-meter stretch of beach. The cultural affiliation of this site is indeterminant.

Sources of Disturbance

Again, the primary source of disturbance is wave action which not only picks up and redeposits material from the beach, but also erodes the cutbank. Public usage indicated by the recent historic debris is another source of potential disturbance.

Method of Collection

Because the ground surface visibility was good, the primary method of collection was ground surface reconnaissance. Because of the low elevation and the closeness of the waterline to the site, no subsurface tests were dug. The cutbank was examined but no cultural material was recovered.

Artifacts Recovered

The collection from this site consists of 5 jasper flakes, 1 jasper knife, and the tip of a broken jasper knife (See Plate 5).

25HM155

Description and Condition of the Site

This upland site is a small lithic scatter located in Section D. The site is covered with thick grasses, making the ground surface visibility less than 5 percent. The flakage recovered from the site was located along the top of the cutbank in an area 150 meters long. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

Except for a few scattered rodent burrows, there is no evidence of potential disturbance to the site.

Method of Collection

The ground surface visibility did not allow for adequate visual examination of the site. The few rodent burrows that were on the site were inspected. Two auger tests were dug on the site.

Auger Test #1 was placed on the southeastern end of the lithic scatter 10 meters away from the rim of the cutbank. This

pit was dug to 70 cm. and no cultural material was recovered.

Auger Test #2 was placed at the northwestern end of the lithic scatter, 125 meters from Auger Test #1. This pit was placed 12 meters from the rim of the cutbank and was dug to 60 cm. Again, no cultural material was recovered.

Artifacts Recovered

The only artifacts recovered from the site were 2 jasper flakes and 2 chert flakes that were found on the surface.

25SM172

Description and Condition of the Site

This site is a find spot located on the mud flat in Section D. The artifact was recovered from a trail, with ground surface visibility of 50 percent being on the trail and 20 percent in the surrounding areas. The area surrounding the trail was covered with willow and cottonwood trees. The elevation at the site is 1940 m.s.l. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The primary source of disturbance is water action and use by the public.

Method of Collection

Given the ground surface visibility, the surface was visually examined as thoroughly as possible. The cutbank was also examined but no cultural material was recovered. No auger or shovel tests were dug on the site.

Artifacts Recovered

A single broken obsidian scraper was recovered from the site.

25SM129

Description and Condition of the Site

This site is a small lithic scatter located in Section E. Artifacts recovered from the site came entirely from the beach. The elevation at the site is 1947 m.s.l. and the ground surface visibility is 100 percent. The site extends 150 meters along the shoreline. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The primary source of disturbance to the site is from continuing inundation and subsequent soil erosion. Additionally, the site area is accessible to the public and thus is potentially subject to vandalism.

Method of Collection

The primary method utilized at the site was ground surface reconnaissance. However, extensive cutbank planing was also done.

Artifacts Recovered

The collection of artifacts from this site includes 5 chert flakes and 1 flint flake.

25HN128

Description and Condition of the Site

This site is very similar to 25HN129. It is a medium lithic scatter located along the beach in Section E. The site is located primarily on the beach. The elevation at the site is 1945 m.s.l. and the ground surface visibility on the beach was 95 percent. Cultural material was found along the width of the beach for 350 meters to the east of the interior access road which runs north and south. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The single source of disturbance to the site is soil erosion from wave action on the beach. Additionally, there is some evidence of soil erosion down from the cutbank.

Method of Collection

Ground surface reconnaissance was the primary method utilized at the site. The beach was examined at a 20-meter interval. Cutbank planing was also done and a single flake was recovered at 70 cm.

Artifacts Recovered

In total, 12 jasper flakes, 6 chert flakes, 2 flint flakes and 1 jasper scraper were recovered from the surface at the site. No additional types of cultural material were recovered from the surface.

25MM162

Description and Condition of the Site

This site is a medium lithic scatter found on the beach in Section E. The site was initially represented by an isolated find, and subsequently additional cultural material was recovered to the west. The ground surface visibility at the site is 100 percent. The elevation of the site is 1940 m.s.l. and the size of the site is 1500 square meters, not accounting for the isolated find. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The primary source of disturbance at the site is water action. There is evidence of erosion from the cutbank due to wave action.

Method of Collection

The ground surface visibility allowed for a complete and thorough examination of the site area. Additionally, the cutbank was checked but there was no evidence of cultural material. An attempt was made to dig an auger test, but the pit filled with water.

Artifacts Recovered

A total of 4 jasper flakes, 2 chert flakes, 1 chert core, 7 jasper fragments and 1 bone fragment were recovered from the site.

25MM163

Description and Condition of the Site

This is a small lithic scatter which was located on the beach in Section E. The cultural material from the site was found on the beach and extending into the inlet. The ground surface visibility on the site was 100 percent on the beach and reduced to 80 percent into the inlet due to scattered cottonwoods and weeds. The elevation at the site is 1942 m.s.l. and the size of the site is 2000 square meters. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The primary source of disturbance at the site is water action over the area.

Method of Collection

Ground surface reconnaissance was done over the entire site and extended well into the inlet. The cutbanks were checked where possible. One auger test was dug on the site.

Auger Test #1 was placed in the center of the concentration at the mouth of the inlet. It was dug to 50 cm. and no cultural material was recovered.

Artifacts Recovered

Two jasper flakes were recovered from the site.

25[redacted]144

Description and Condition of the Site

This site is a small lithic scatter located in Section E. The site is located on the beach at an elevation of 1940 m.s.l. The ground surface visibility on the site was 95 percent with only scattered weeds. The size of the site is 800 square meters. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The primary source of disturbance to this site is water action causing churning and redeposition of cultural material from the surface.

Method of Collection

Ground surface reconnaissance was conducted over the entire site. The cutbank in the site area was checked but no cultural material was recovered. Because the site area was so low, no auger or shovel tests were dug on the site.

Artifacts Recovered

A total of 1 jasper flake, 3 chert flakes and 2 jasper fragments were recovered from this site.

25[redacted]145

Description and Condition of the Site

This camp site is located on a low beach area in Section E. The majority of cultural material was recovered from a former waterline ridge, 1938.60 m.s.l., running the length of the beach approximately 50 meters from the cutbank. When the level of the

lake was higher, the wave action deposited small rocks and pebbles onto a very small linear ridge along the beach. These waterlines were evident at other sites as well. Some were recent and intact and others have subsequently been washed down by the same wave action that created them. Because of the relatively short time necessary to form these waterlines, it is impossible to determine when these waterlines were formed.

The beach itself has variable ground surface visibility ranging from 100 percent near the waterline to 50 percent closer to the cutbank. The beach also has evidence of shale fragments that have washed from the cutbank and been redeposited along the beach. The elevation of the site is 1940 m.s.l. The size of the site is 1000 square meters, and its cultural affiliation is Woodland.

Sources of Disturbance

It is obvious at this site that water action has been the primary source of disturbance. The erosion and subsequent redeposition of the cutbank onto the beach as well as artifactual material being recovered from a former waterline on the beach indicates that the water action in this area can potentially "move" sites.

Method of Collection

Ground surface reconnaissance was conducted over the site and the cutbank was thoroughly examined. Additionally, an auger test was dug.

Auger Test #1 was dug in the center of the concentration of artifacts 10 meters from the cutbank. The pit was dug to 45 cm. and yielded no evidence of cultural material.

Artifacts Recovered

Three jasper flakes, 2 chert flakes, 2 flint flakes, 1 chert fragment, a jasper side-notched projectile point, a chert thumbnail scraper, and 2 bone fragments were recovered from the site. One of the flakes was recovered from the beach 115 meters northeast of the site area and one bone fragment was recovered 1 meter west of the isolated flake (See Plate 6).

25[redacted]146

Description and Condition of the Site

This camp site is located in Section E. Artifactual material was recovered from the cutbank to within 5 meters of the waterline (1938.64 m.s.l.), a distance of 27 meters. The ground surface visibility on the site ranged from 100 percent near the waterline to 60 percent closer to the cutbank. The elevation at

the site ranged from 1940 to 1950 m.s.l. A large concentration of historic debris including concrete, bricks and mortar, glass, crockery, and metal was heaviest along the eastern edge of the site and extending east of the site area indicating the former existence of an historic structure. The size of the site (not including the historic debris) is 10,000 square meters. Analysis of recovered material indicates that the cultural affiliation of this site is Archaic.

Sources of Disturbance

The two sources of disturbance to the site are water action causing erosion of the cutbank and churning of cultural material on the beach, and the dumping of historic debris along the beach.

Method of Collection

Ground surface reconnaissance was conducted over the entire length of the site. Additionally, the cutbank was thoroughly checked but no cultural material was recovered. Two auger tests was dug at the site.

Auger Test #1 was placed at the western edge of the site. The pit was dug to 50 cm. and yielded no cultural material.

Auger Test #2 was placed at the eastern edge of the site. This pit was dug to 55 cm. and yielded no cultural material.

Artifacts Recovered

Eight jasper flakes, 2 chert flakes, 1 flint flake, 1 flint side-notched projectile point, 1 chert turtleback scraper, 1 chert fragment, and 4 jasper fragments were recovered from the site. Approximately three times more flakage was available on the surface but was not collected. Two of the flakes were located 125 meters northeast of the site. Between the site concentration and the isolated flakes, no cultural material was recovered (See Plates 6 and 7).

25HN171

Description and Condition of the Site

This site is a find spot located on the beach in Section E, approximately 450 meters west of 25HN56. The flake was recovered from a very sandy deposit which was a probable former waterline. It was recovered 45 meters from the waterline and 8 meters from the cutbank. The elevation at the site is 1947 m.s.l. and the ground surface visibility was 85 percent. The area was covered with scattered willow trees. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The primary source of disturbance at the site is water action and erosion from the cutbank. The cutbank along the north shore of White Cat Point has been shown to exhibit tremendous erosion from the water action.

Method of Collection

Ground surface reconnaissance was conducted over the area and the cutbank was visualy examined. No auger or shovel tests were dug at the site.

Artifacts Recovered

A single jasper flake was recovered from the site.

25[redacted]111

Deacription and Condition of the Site

This is a camp site located in Section F. A broken knife was initially recovered on a bluff 30 feet above the beach at an elevation of 1975 m.s.l. The artifact was found in an erosional wash on the gravel road which is surrounded by grassy areas and trees. The ground surface visibility was 100 percent on the road and approximately 15 percent in the grassy areas. The road had been graveled so the primary source of the artifacts is somewhat questionable. But, because of the close proximity of other sites in the area, we must assume that the site was not redeposited by road fill. Subsequently, a small amount of additional cultural material was recovered from the beach immediately below the bluff. The size of the site and its cultural affiliation are indeterminant.

Sources of Disturbance

In the general vicinity of the tool, there was evidence of disturbance from animal burrowing, tree planting, and road construction and maintenance. Additionally, there was some evidence of soil erosion from the site toward the bluff. Cultural material located on the beach is, in all probability, subject to disturbance by water action.

Method of Collection

The entire length of the road was visually examined. No shovel tests or auger tests were dug in this area because the deep cuts along the road, the erosional areas, and the cutbank to the northeast provided adequate subsurface viewing. Surface reconnaissance was carried out on the beach below the bluff.

Artifacts Recovered

Two chert flakes, 1 jasper flake and a broken tool were recovered from the site. The tool is the tip of a projectile point which is bifacially worked, with some evidence of retouch flaking (See Plate 3).

25HM151

Description and Condition of the Site

This site is a small lithic scatter located in the uplands in Section F. Cultural material was found on an abandoned grassy road in an area surrounded by heavy grass at an elevation of 2030 m.s.l. The surface visibility on the site is less than 10 percent and the size of the site is unknown. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

This is one of the few sites that were located that has no source of disturbance to alter, damage, or destroy its cultural material. It is not threatened by water action or erosion, it is accessible only on foot so public disturbance of the site is minimal, and the old road in which the site was found has been blocked off to all unauthorized traffic. Even wind erosion is not a problem because the site is covered with heavy grasses.

Method of Collection

In this heavy grassy area, artifacts were found almost by "accident." No additional ground surface examination was conducted at the site. However, two test pits were dug.

Test Pit #1 was dug 6 meters southwest of the road and 228 meters from the junction of the grassy road and the paved road. This pit was dug to 50 cm. and yielded no cultural material.

Test Pit #2 was dug 10 meters northeast of the road and 24 meters north of Test Pit #1. This pit was dug to 55 cm. and yielded no cultural material.

Artifacts Recovered

A total of 3 jasper flakes and 1 bone fragment were recovered from the site.

25HN112

Description and Condition of the Site

This site is a camp located in the uplands of Section F. Artifacts were found primarily in the road cuts. The ground surface visibility was 100 percent on the road and 20 percent in the surrounding grassy areas. According to Corps of Engineers personnel, this road had been cut but never covered with gravel. Thus, the source of the artifacts is not in question. The size of the site is approximately 250 sqaure meters. The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The potential sources of disturbance at the site are road maintenance, soil erosion, and animal burrowing.

Method of Collection

The road was examined visually and the deep cuts along the sides of the road (averaging 45 cm.) were also examined. The cutbank to the north was also examined. Additional artifacts were recovered from 160 cm. in the cutbank.

Artifacts Recovered

The artifacts recovered from this site include 52 jasper flakes, 3 chert flakes, 1 flint flake, 4 jasper fragments, 1 chert fragment, 2 pieces of a broken jasper knife, 2 bone fragments and 4 turtleshell fragments (See Plates 3 and 4).

25HN110

Description and Condition of the Site

This medium lithic scatter is located on the beach in Section F. The ground surface visibility at the site was 100 percent, allowing for maximum visual examination of the site. The size of the site is unknown. The cultural affiliation of the site is possibly Paleo-Indian.

Sources of Disturbance

The greatest source of disturbance to the site is erosion and redeposition of soil and artifacts from wave action. Additionally, because Patterson Harbor is a public use area, the potential for disturbance due to vandalism of the site does exist.

Method of Collection

The artifacts from the site were collected from ground surface reconnaissance. No auger tests or shovel tests were dug.

Artifacts Recovered

One chert and 1 jasper chopper, 1 jasper scraper, 4 jasper flakes, 1 chert flake, 7 bone fragments, 1 tooth fragment and 1 animal jaw fragment with teeth were recovered (See Plate 3).

25HM126

Description and Condition of the Site

This site is a large upland lithic scatter located in Section F. Cultural material was found on both sides of the boat ramp at the present water level as well as on the gravel road which extends north toward the trailer park. The site has already been partially destroyed by the construction of the boat ramp, the roads, and the trailer park to the northeast. The elevation on the beach is 1940 m.s.l. and the elevation at the northern extent of the site is 1980 m.s.l. The size of the site is 97 meters (along the beach) by 115 meters (along the gravel road to the north). The cultural affiliation of the site is indeterminant.

Sources of Disturbance

The potential sources of disturbance are the maintenance of the roads and the boat ramp. The construction of these has already partially destroyed the site. Additionally, because the site is easily accessible to the public, this becomes a potential source of disturbance.

Method of Collection

Ground surface reconnaissance was the primary method utilized at the site. The beach area was examined as well as the areas above the boat ramp and along the gravel road. Also, the cutbank was checked. No shovel or auger tests were dug at the site because on the beach the tests would have filled with water, and above the boat ramp, the area was so disturbed that subsurface testing did not seem warrented.

Artifacts Recovered

Artifacts recovered from the site included 64 jasper flakes, 16 chert flakes, 12 jasper fragments, 1 chert fragment, and 1 chert scraper.

25HN127

Description and Condition of the Site

This site is a camp located in Section F. The artifacts recovered from the site were found primarily on the beach, but a few were recovered from the cutbank. The cutbank is one meter in height and the artifacts were recovered from a depth of 60 cm. The elevation at the site is 1945 m.s.l. and the ground surface visibility on the beach was 80 percent. There is a main concentration of artifacts in addition to three flakes that were included with the 25HN127 collection. The first is a flake which was recovered from the beach appoximately 200 meters south of the main concentration. The second and third flakes were recovered from the beach approximately 400 meters to the north and west of the main concentration. The size of the main concentration was 100 square meters. Analysis of the recovered materials did not allow a determination of cultural affiliation to be made.

Sources of Disturbance

The only two sources of disturbance to this site are soil erosion and the use of the area by the public.

Method of Collection

The site area was examined visually. The entire beach was checked at a 20 meter interval. Cutbank planing was also done in the site area. Two shovel tests were dug above the cutbank in order to verify if the site extended back into the picnic ground.

Shovel Test #1 was dug 20 meters from the edge of the cutbank. It was dug to a depth of 55 cm. and no cultural material was recovered.

Shovel Test #2 was dug approximately 35 meters from the edge of the cutbank. It was taken to a depth of 50 cm. and no cultural material was recovered.

Artifacts Recovered

In the main concentration of artifacts, 2 chert flakes and a flint side-notched projectile point were recovered. Two flakes (1 jasper and 1 flint) were found in the cutbank at a depth of 60 cm. Three other chert flakes were found and added to this collection as described above (See Plate 3).

FIGURE 10: TABULAR SUMMARY OF 25HN110 THROUGH 25HN173

SITE NUMBER	TYPE OF SITE	SITE SIZE (SQ. METERS)	PRESENT STATUS
25HN110	Med. lithic scatter	?	Shoreline, subject to inundation
25HN111	Camp	?	Upland, in road grade
25HN112	Lg. lithic scatter	250	Upland, in road grade
25HN113	Sm. lithic scatter	150	Upland, in road grade
25HN114	Camp	75	Shoreline, subject to inundation
25HN115	Sm. lithic scatter	30	Shoreline, subject to inundation
25HN116	Sm. lithic scatter	50	Upland, inroad grade
25HN117	Sm. lithic scatter	3	Upland, in road cut
25HN118	Possible habitation	500	Shoreline, subject to inundation
25HN119	Lg. lithic scatter	1050	Eroding from cutbank to beach
25HN120	Sm. lithic scatter	280	Upland, severe disturbance
25HN121	Lg. lithic scatter	?	Beach, severe disturbance
25HN122	Camp	300	Upland, subject to erosion
25HN123	Med. lithic scatter	200	Upland, subject to erosion
25HN124	Camp	600	Upland, in picnic area
25HN125	Habitation	?	Upland, in picnic area
25HN126	Lg. lithic scatter	97	Upland, severe erosion
25HN127	Camp	100	Shoreline, cutbank
25HN128	Med. lithic scatter	350	Shoreline, subject to inundation
25HN129	Sm. lithic scatter	150	Shoreline, subject to inundation
25HN130	Camp	220	Shoreline, subject to inundation
25HN131	Lg. lithic scatter	2400	Shoreline, result of redeposition

SITE NUMBER	TYPE OF SITE	SITE SIZE (SQ. METERS)	PRESENT STATUS
25HN132	Habitation	540	Shoreline, subject to inundation
25HN133	Camp	615	Shoreline, subject to inundation
25HN134	Habitation	1600	Shoreline, subject to inundation
25HN135	Habitation	9700	Shoreline, subject to inundation
25HN136	Habitation	8000	Shoreline, subject to inundation
25HN137	Habitation	3000	Shoreline, subject to inundation
25HN138	Sm. lithic scatter	?	Shoreline, subject to inundation
25HN139	Habitation	4000	Shoreline, subject to inundation
25HN140	Habitation	3000	Shoreline, subject to inundation
25HN141	Sm. lithic scatter	2400	Shoreline, subject to inundation
25HN142	Habitation	3200	Shoreline, subject to inundation
25HN143	Med. lithic scatter	7000	Shoreline, subject to inundation
25HN144	Sm. lithic scatter	800	Shoreline, subject to inundation
25HN145	Camp	1000	Shoreline, subject to inundation
25HN146	Camp	10000	Shoreline, cutbank, inundation
25HN147	Habitation	500	Shoreline, subject to inundation
25HN148	Camp	4000	Shoreline, subject to inundation
25HN149	Sm. lithic scatter	800	Upland, on bank of stream
25HN150	Sm.lithic scatter	600	Upland,disturbed byjeep trail
25HN151	Sm. lithic scatter	?	Upland
25HN152	Find spot	?	Upland
25HN153	Med. lithic scatter	?	Upland, poss. redeposition
25HN154	Sm. lithic scatter	5	Upland
25HN155	Sm. lithic scatter	150	Upland, protected

SITE NUMBER	TYPE OF SITE	SITE SIZE (SQ. METERS)	PRESENT STATUS
25HN156	Find spot	?	Upland, damaged by pipeline
25HN157	Find spot	?	Upland, erosion off cutbank
25HN158	Sm. lithic scatter	?	Upland, heavy public use
25HN159	Find spot	?	Upland, heavy public use
25HN160	Find spot	?	Upland, in road cut
25HN161	Sm. lithic scatter	?	Upland, in road cut
25HN162	Med. lithic scatter	1500	Shoreline, subject to inundation
25HN163	Sm. lithic scatter	2000	Shoreline, subject to inundation
25HN164	Sm. lithic scatter	1000	Shoreline, subject to inundation
25HN165	Sm. lithic scatter	150	Shoreline, subject to inundation
25HN166	Sm. lithic scatter	130	Shoreline, subject to inundation
25HN167	Sm. lithic scatter	3	Shoreline, subject to inundation
25HN168	Sm. lithic scatter	50	Shoreline, subject to inundation
25HN169	Find spot	?	Shoreline, subject to inundation
25HN170	Sm. lithic scatter	90	Shoreline, complete inundation
25HN171	Find spot	?	Shoreline, subject to inundation
25HN172	Find spot	?	Shoreline, complete inundation
25HN173	Find spot	?	Upland, in road cut

VII. SITES TESTED FOR THE NATIONAL REGISTER OF HISTORIC PLACES

25HN1, MARSHALL OSSUARY

Location

In the report prepared by Pepperl and Falk (1978), there is some confusion as to the exact location of this site. The publications cited by Pepperl and Falk agree as to section, but disagree as to the exact location within the section.

General Description

This site is an ossuary located on a bluff 15 meters above the former Republican River channel. A description of the current condition is impossible due to the fact that the site has been destroyed by erosion.

Site Testing

During the 1979 field investigation, the shoreline running through the section agreed upon by all of the authors above as the general location of the site was examined. This resulted in the location of cultural material on the beach. The artifacts recovered consisted of 1 jasper scraper, 2 jasper fragments, 3 shell beads, 3 bone fragments and 2 tooth fragments. The material recovered suggested that the site has been badly affected by erosion. An investigation of the ridge above the beach resulted in the location of no additional site data.

Cultural Affiliation

Based upon the diagnostic artifacts recovered from the site, the cultural affiliation is Woodland (Keith Focus).

Conclusions

When this information is combined with the erosional effects as described above (erosion only in terms of its effect on cultural resources), the obvious conclusion is that the site has been destroyed by erosion. Comparison of the 1937 and 1974 U.S.G.S. quadrangle maps and the sequence of aerial photographs provided to the contractors by the Corps of Engineers further support this conclusion by indicating that between 25 and 40 meters have been destroyed.

Furthermore, Pepperl and Falk (1978:4) indicate through informants "that the area had formed a low island which has washed away". Thus, all of the information available through the literature and field investigation clearly indicates that this site has been completely destroyed.

25HN11, Unnamed

Previous Investigations

The site was recorded in 1949 and the University of Nebraska-Lincoln Field School was conducted at the site in 1949 and 1950. Additional surface collections were done at the site in 1951. During the UNL field schools a shell midden was excavated and two overlapping subrectangular structures were defined. Based upon the ceramics recovered, the site was assigned to the Upper Republican Aspect, Lost Creek Focus. Pepperl and Falk (1978:11) observed artifactual material along the beach in a 100-meter by 35-meter area at an elevation of 1945 m.s.l. to 1950 m.s.l.

General Description

This site is situated on the beach and cultural material was recovered from above the cutbank. The width of the beach ranges from 5 meters to 25 meters with a reasonably low cutbank. Along the cutbank on the beach there are cottonwood trees making the ground surface visibility approximately 60 percent. The large trees above the cutbank reduce the ground surface visibility to 10 percent with scattered open areas and road cuts. The beach and cutbank is subject to severe erosion due to wave action. Large chunks of the cutbank have been cut away and are being gradually washed away.

Site Testing

The field methodologies utilized to test this site for the National Register of Historic Places included surface reconnaissance of the beach utilizing the spot-check method, auger testing, and shovel testing.

Surface Reconnaissance: Utilizing the transect method of surface reconnaissance, we were able to precisely locate the site. The northern-most artifacts collected from the site were 250 meters south of the edge of 25HN56. The southern-most artifacts collected from the site were 50 meters north of the edge of 25HN57. The transects that represent the site include Transects #20-#25 (See Figures 11 and 12). The artifacts that were recovered from the surface consist of 1 jasper flake, 1 jasper cutting tool, 2 corner-notched projectile points and 6 cordwrapped body sherds, and 1 cordwrapped/smoothed body sherd (See Plate 1). The artifacts that were recovered from the transect method were 18 jasper flakes, 1 chert flake, 1 jasper burin, 4 jasper fragments, and 4 bone fragments. Although artifacts were found scattered along the beach from the waterline to the cutbank, the majority of them came from within 10 meters of the waterline.

Auger Test #15: This pit was placed above the cutbank west of Transect #22. The pit was dug to 90 cm. and no cultural material was recovered.

Auger Test #16: This pit was placed 5 meters from the edge of the cutbank 15 meters north of Auger Test #15. The pit was dug to 80 cm. and no cultural material was recovered.

Auger Test #17: This pit was placed 3 meters from the cutbank on the beach. Three jasper flakes were recovered from 0-10 cm. and 1 jasper flake was recovered from 20-30 cm. The pit was dug to 50 cm. and no additional cultural material was found below 30 cm.

Shovel Test #15: This pit was placed on the beach on Transect #22.4. This was the location of the largest concentration of artifacts found on the site. The pit was dug to 55 cm. and no cultural materials were recovered.

Shovel Test #16: This pit was placed 30 meters west of Auger Test #15. It was dug to 60 cm. and no cultural material was recovered.

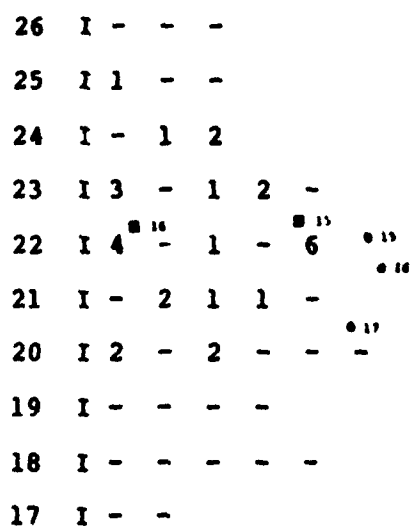
Cultural Affiliation: Based upon the diagnostic artifacts recovered from the site, the cultural affiliation is Upper Republican Aspect (Lost Creek Focus).

Conclusions

According to Pepperl and Falk (1978:11), cultural material was observed at the site in an area of 100 meters by 35 meters. Additionally, they indicate that the site area is normally inundated. Based upon the field inspection of the site,cultural material was recovered in an area 125 meters by 20 meters in size. Additionally, the majority of the artifacts were recovered from an area along or within 10 meters of the waterline. Thus, it is likely that the original deposition of cultural material was in the area now inundated by the reservoir. The artifacts that are included in 25HN16 represent the western extension of the site.

It is possible that at one time the site extended up onto the cutbank. However, intensive erosional damage to the site has made this impossible to verify. During a subsequent examination of the site in 1980, it was noted that tremendous erosional damage has taken place. An estimated 1 to 3 meters of cutbank has been washed away. Large trees have fallen from the cutbank due to undercutting and slumpage (See Plate 9). It also appeared that when the pool elevation of the reservoir was high, the area above the cutbank was subject to inundation and erosion. This inundation has washed soil, as well as cultural material, off the cutbank and onto the beach (See Plate 10). Additionally, deep erosional gullies have bisected the site. The well-defined cutbank that was present during 1979 has eroded away. Overall, the site is being rapidly destroyed by both vertical and horizontal water action.

FIGURE 11: FREQUENCY AND DISTRIBUTION OF ARTIFACTS FROM 25HN11



■ = SHOVEL TEST

● = AUGER TEST

I = WATERLINE

26-17 = TRANSECT NUMBERS

FIGURE 12: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HN11

```
26  I
25  I @
24  I @@@
23  I @@@@@@
22  I @@@@@@@@@@@
21  I @@@@
20  I @@@@
19  I
18  I
17  I
```

@ = SINGLE ARTIFACT

I = WATERLINE

26-17 = TRANSECT NUMBERS

25HN16, Sindt Point

Previous Investigations

The site was recorded in 1972, based upon surface collections. Lithic, ceramics, shell, and bone were recovered from the site, in addition to an iron projectile point fragment reported by Falk and Theissen (1972), suggesting a possible historic component. During the 1977 survey, Pepperl and Falk (1978:13) reported 25 lithics, 20 ceramics, and 25 bone fragments on the beach in an area of 70 meters north-south by 30 meters east-west. No cultural affiliation had been assigned to the site.

General Description

This site is situated on the beach which ranges from 10 meters to 25 meters in width. At the time of the field investigation, there were large trees fallen along the cutbank and sizeable chunks of soil stripped away from the cutbank. There were scattered low weeds on the beach which sloped gradually from the cutbank to the waterline. The ground surface visibility at the site was approximately 75 percent.

Site Testing

The field methodologies utilized to test this site for the National Register of Historic Places included the spot/transect method of surface reconnaissance and shovel testing.

Spot/Transect Surface Reconnaissance: Because the site is located on the mud flat between 25HN54 to the north and 25HN55 to the south, it was first necessary to determine the exact location of the site. This was done by utilizing the spot/transect method. The frequency of artifacts recovered from the beach resulted in the clear definition of the three sites (See Figures 17 and 18).

Only three artifacts representing 25HN16, 1 jasper flake and 2 jasper fragments, were recovered from the mud-flat. These artifacts came from Transect #113.2, Transect #114.0, and 10 meters south and 10 meters west of Transect #112.0. Thus, all of the artifacts were recovered along or within 10 meters of the waterline. Because this site was so sparsely represented, additional surface reconnaissance was conducted between the transect lines. Two tooth fragments were recovered, but no additional lithic or ceramic artifacts were found.

Auger Test #1: This pit was placed above the cutbank immediately west of Transect #114. The pit was dug to 60 cm. and no cultural material was recovered.

Auger Test #2: This pit was placed on the mud-flat along Transect #112, 5 meters from the waterline. Because of water filling in the pit, it was dug only to 30 cm. No cultural

material was recovered.

Cultural Affiliation

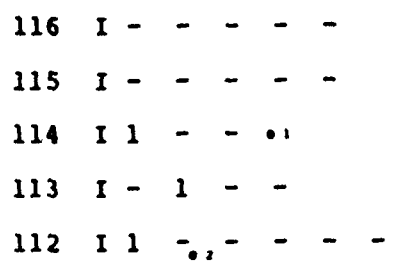
Based upon the lack of diagnostic artifacts, the cultural affiliation of the site remains unassigned.

Conclusions

This site is subject to continual inundation which has resulted in its near-total destruction. As can be seen in Figure 13 and 14, the only manifestations of the site's presence were a few artifacts scattered on the beach. It is probable, however, that the original deposition of artifacts was to the east, in an area now completely inundated. The artifacts that were found represent only the western boundary of the site. It should also be noted that aerial photographs taken prior to inundation indicate that Sindt Point originally extended 220 feet to the east. This area has since been completely inundated or subjected to frequent periods of inundation. It is likely that if any portions of the site remain, they are located well below the normal pool level and are beyond the scope of this project.

The site was revisited in 1980. The pool level was below that of 1979, exposing a larger portion of the mud-flat. Transects #112-#114 were relocated and surface examination was done. No additional cultural material was recovered. Additionally, it was noted that the cutbank and mud-flat around Sindt Point have been subject to severe erosion. Trees still bearing green foliage had fallen from the cutbank and onto the beach in just one year. Also, it was noted that the small willow and cottonwood trees along the cutbank have sandy silt deposits around their bases, suggesting periodic inundation of the mud-flat.

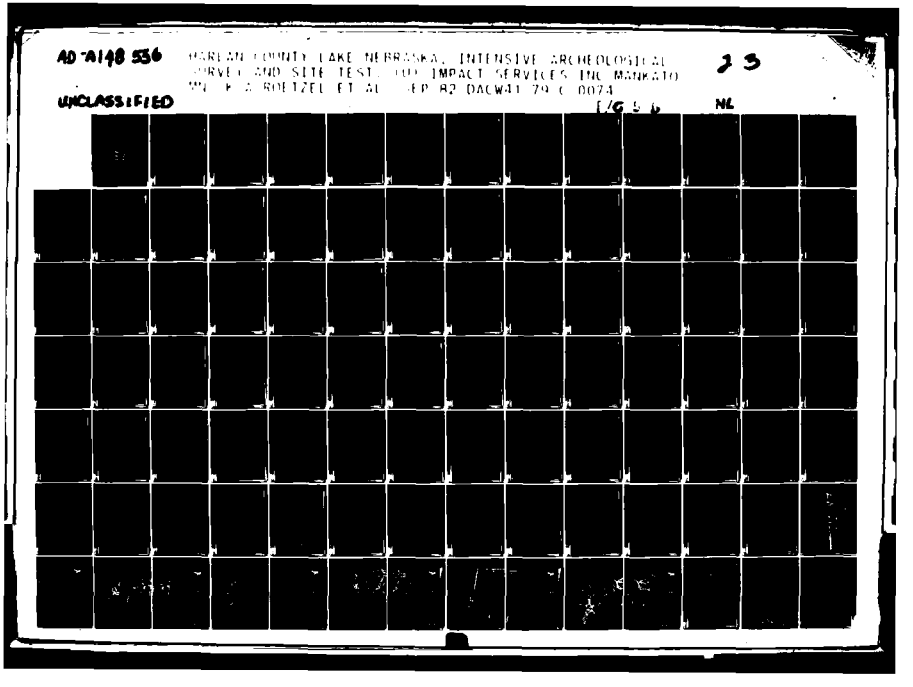
FIGURE 13: FREQUENCY AND DISTRIBUTION OF ARTIFACTS FROM 25HN16



● = AUGER TESTS

I = WATERLINE

116-112 = TRANSECT NUMBERS


AD-A148 536
HARLAN COUNTY LAKE NEBRASKA INTENSIVE ARCHEOLOGICAL
SURVEY AND SITE TEST... (U) IMPACT SERVICES INC MANKATO
W. R. J. ROETZEL ET AL. SEP 82 DACW41 79 C 0074
UNCLASSIFIED
F/G 5 6
NL

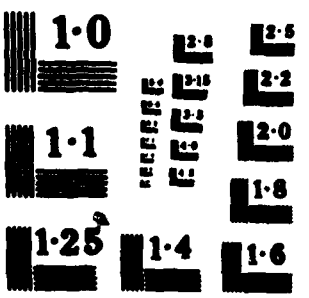

1·0
1·1
1·25
1·4
2·5
2·2
2·0
1·8
1·6

FIGURE 14: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HN16

116 I

115 I

114 I @

113 I @

112 I @

@ = SINGLE ARTIFACT

I = WATERLINE

116-112 = TRANSECT NUMBERS

25HN32, Unnamed

Previous Investigations

This site was located and recorded by Kivett and Hill (1946) and revisited by Pepperl and Falk (1978). The site is described as a Woodland Village which included "thick cord-marked pottery, bone, lithic flakes, burned earth, and other stones" (Pepperl and Falk 1978:15). Additionally, two subsurface pits, 31 to 47 inches below the surface, were reported in the road cut in 1946.

General Description

Most of this site has been destroyed.

Site Testing

Because of the thick vegetal cover at the site, controlled visual examination of the surface was impossible. All open areas on the site were examined and a single jasper flake was recovered. Site testing was conducted utilizing shovel tests (See Plate 11) and cutbank planing along Cook Creek. An east-west and a north-south datum line was placed through the center of the site. The locations of the auger tests were mapped in relation to those lines.

Shovel Test #1: This pit was placed on the north-south line, 5 meters north of the fence line running parallel to U.S. Highway 136. The pit was dug to 85 cm. There was evidence of small bits of charcoal at 45 cm., but they were not sizeable enough to maintain. No cultural material was recovered from this pit.

Shovel Test #2: This pit was placed 15 meters due north of Sovel Test #1, toward Cook Creek. The pit was dug to 90 cm. Again, no cultural material was recovered.

Shovel Test #3: This pit was placed on the east-west line, 20 meters east of the north-south line and 30 meters from the fenceline running adjacent to Cook Creek to the east. This pit was dug to 90 cm. and no cultural material was recovered.

Shovel Test #4: This pit was placed on the east-west line, 20 meters west of the north-south line. The fenceline to the west was 9.5 meters from the pit. The pit was dug to 100 cm. and no cultural materials were recovered.

Cutbank Planing: The cutbank of Cook Creek, which bounds the site on the north and east, was examined. No cultural material was recovered.

Cultural Affiliation: Based upon the artifacts recovered from the site, the cultural affiliation is Woodland.

Conclusions

It was suggested in 1946 that most of the site had been destroyed by the road cut. Pepperl and Falk (1978:15,74) also suggest that much of the site has been destroyed by the construction of U.S. Highway 136. Based upon the negative results of the 1977 survey and the negative results of the subsurface testing done on the site in 1979, it seems apparent that much of the site has, indeed, been destroyed.

25HN37, White Cat Village

Previous Investigations

The details of previous investigations at the site are lengthy. Suffice it to indicate that surface collections, limited testing, and major extensive excavations have been done at the village site from 1946 through 1952. An inventory of artifacts represented by 10,646 catalog numbers is on file at the University of Nebraska-Lincoln. The cultural affiliation of the site, based upon the recovered artifacts, is Dismal River/Plains Apache.

General Description

This site is located on the beach ranging in width from 5 meters to 25 meters. Much of the site area is covered with weeds and grasses. Along the cutbank, which is approximately 80 cm. high, the grasses and weeds are very thick making the ground surface visibility approximately 25 percent. On the beach toward the waterline, the ground surface visibility was 90 percent.

Site Testing

Because this site is situated between 25HN57 and 25HN58, it was necessary to demonstrate the frequency and distribution of artifacts recovered from the surface. Thus, in addition to ground surface reconnaissance, shovel testing, auger testing, and cutbank planing, spot/transect surface reconnaissance was conducted.

Ground Surface Reconnaissance: Limited ground surface reconnaissance was conducted at the site. A total of 18 body sherds were recovered, 6 of which were smoothed body sherds, 7 were cordwrapped/smoothed, 1 was cordwrapped, 2 were plain, sherds, 1 was bossed, and 1 was split.

Spot/Transect Surface Reconnaissance: The transects that represent this site are Transects #42 through #49. The artifacts that were recovered included 48 jasper flakes, 8 chert flakes, 3 quartz flakes, 6 jasper fragments, 2 chert fragments, 1 jasper triangular projectile point, 1 body sherd, 5 smoothed body sherds, 3 cordwrapped/smoothed body sherds, 1 cordwrapped body sherd, 1 plain body sherd, 1 split sherd, 6 bone fragments, 2 tooth fragments (non-human), and 1 recent historic artifact (unidentifiable).

The frequency and distribution of the artifacts appear to indicate that much of the site is now destroyed or underwater. The heaviest concentrations of artifactual materials were recovered along or within a few meters of the waterline (1938.65 m.s.l.). The distribution of artifacts along the beach extends for 200 meters, with material spread from the waterline to within 10-15 meters of the cutbank (See Figures 15 and 16).

Shovel Test #10: This pit was placed above the cutbank approximately 15 meters from the edge, adjacent to Transect #41. A single jasper flake was recovered from 35-40 cm. and 1 jasper flake and a jasper fragment from 40-45 cm. The pit was dug to 60 cm. No additional cultural material was recovered.

Shovel Test #11: This pit was placed above the cutbank, 28 meters from the edge. It was adjacent to Transect #45. No cultural material was recovered from the pit, which was dug to 60 cm.

Auger Test #10: This pit was placed on the beach adjacent to the cutbank on Transect #46. A cordwrapped/smoothed body sherd and a jasper flake were recovered from 0-10 cm. The pit was dug to 60 cm. No additional cultural material was recovered.

Cutbank Planing: The cutbank was examined along the extent of the site area. A reasonably significant number of artifacts were recovered from the cutbank, including 8 jasper flakes, 2 jasper fragments, and 5 bone fragments. All of these artifacts were recovered between 10 cm. and 20 cm., although the cutbank was examined in its entirety and to a depth, in some cases, of more than 2 meters.

Cultural Affiliation

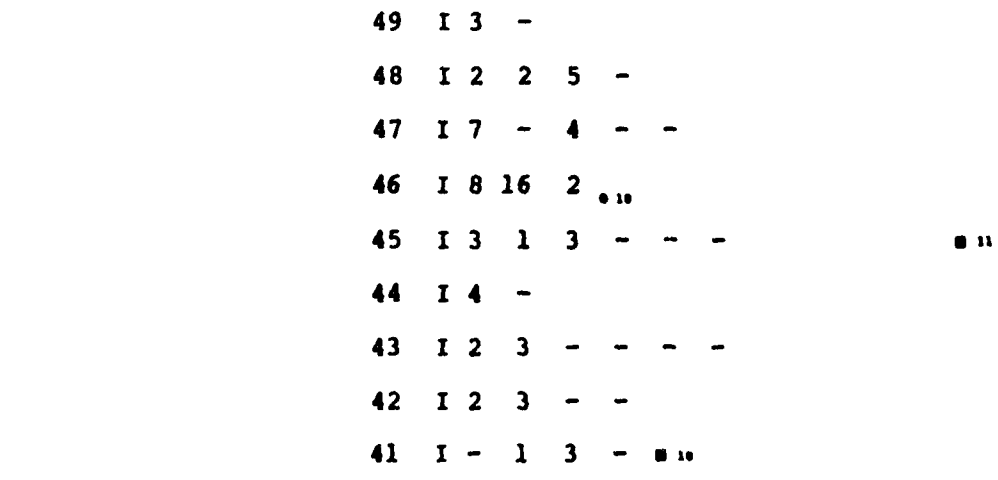
Based upon the diagnostic artifacts recovered from the site, the cultural affiliation is Dismal River/Plains Apache.

Conclusion

Given the distribution of cultural material through the various field methodologies utilized on White Cat Village, it appears that the largest portion of the site has been destroyed (See Plates 14 and 15). Artifactual material was recovered from the spot/transect method predominantly near the waterline (1938.65), while only a few (relatively speaking) artifacts were recovered from above the cutbank. Additionally, these artifacts were recovered from within the top 20 cm. in every case except Shovel Test #10. Given the fact that high water levels have repeatedly inundated the site area, some of these artifacts, if not a majority, may be a result of redeposition.

It appears that White Cat Village has either been destroyed by water erosion or, alternatively, is currently underwater. It would be a reasonable assessment to suggest that both are true. Much of the site has been destroyed while some remaining portions may be intact below the current water level.

FIGURE 15: FREQUENCY AND DISTRIBUTION OF ARTIFACTS FROM 25HN37



■ = SHOVEL TESTS

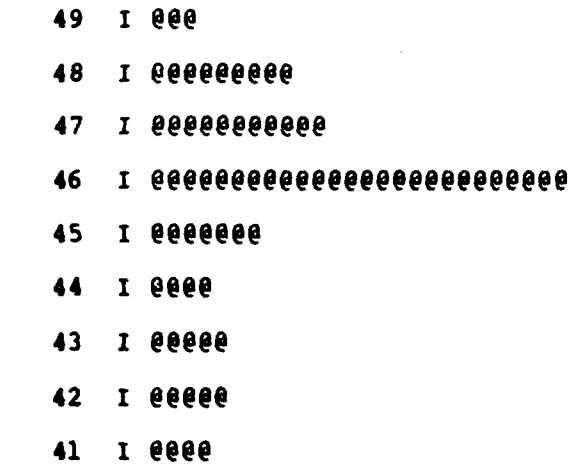
● = AUGER TESTS

I = WATERLINE

49-41 = TRANSECT NUMBERS

FIGURE 16: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HN37



@ = SINGLE ARTIFACT

I = WATERLINE

49-41 = TRANSECT NUMBERS

25HN40, Unnamed

Previous Investigation

The site was recorded in 1946 by Kivett with limited surface reconnaissance and subsurface testing. During the 1977 survey, Pepperl and Falk utilized a transect method. Artifacts found within eight one-meter squares at 10-meter intervals were examined in order to determine artifact density (1978:24).

General Description

This site is situated on a reasonably wide stretch of beach with very little vegetal cover except toward the northwest side of the site where there are heavy stands of trees. The beach is slightly rolling from the cutbank to the waterline. The ground surface visibility on the beach area was nearly 100 percent. Above the cutbank, the ground surface visibility was less than 20 percent except for the open road cuts.

Site Testing

This was the only site tested for the National Register of Historic Places at which the transect method as described in the field methodology section of this report was utilized. Transects of 25 meters were placed from the waterline to the cutbank. Unlike the spot/transect method in which only those artifacts within a one-meter diameter were collected, when utilizing this method all artifacts that were found on the surface within the 25-meter transect were collected. Additionally, general surface reconnaissance and shovel testing were done above the cutbank as well as on the beach.

Random Surface Reconnaissance: This was done entirely above the cutbank along the access road. The artifacts collected include 14 jasper flakes, 8 jasper fragments, 3 feldspar fragments and 5 bone fragments. These were subsequently placed in the appropriate transect bag and are included in the breakdown of artifacts collected from the transects below.

Transect Surface Reconnaissance: Transects #300 through #338 were placed around the point beginning on the south shore, on the east boundary of the Public Use Area. Based upon the results of collection within the transects, the site extends from Transect #300 through Transect #322 with 5 isolated specimens being recovered from Transect #333.

As can be seen from Figure 17, each transect was collected twice. On the first pass over the site area, the sun was to the back of each crew member. Thus, the area of visual inspection was constantly shadowed. On the second pass over the same area, the sun was on the faces of the crew members and there was no shadowing on the ground. The same amount of man hours were spent on each pass and they were done at the same time of day. This

methodology was done to determine if the angle of the sun was a factor in the results of the visual examination. Obviously, the Figure indicates that the position of the sun does, indeed, affect the ability of the field researcher to recover cultural material from the surface. For example, in Transect #315, the first collection yielded 14 artifacts and the second yielded 49, an increase in artifact recovery of over 200 percent. Transect #314 yielded 1 artifact on the first collection and 26 on the second, an increase in artifact recovery of 2600 percent.

The artifacts recovered from the transects consist of 116 jasper flakes, 2 chert flakes, 2 flint flakes, 1 quartz flake, 1 obsidian flake, 4 chalcedony flakes, 2 fedlspar flakes, 48 jasper fragments, 1 chert fragment, 1 quartz fragment, 8 feldspar fragments, 7 jasper preforms, 1 feldspar preform, 2 jasper cores, 3 jasper scrapers, 4 jasper burins, 2 cordwrapped body sherds, 29 bone fragments, and 2 tooth fragments.

Shovel Test #22: This pit was placed above the cutbank, 15 meters from its edge and 30 meters east of Shovel Test #23. It was dug to 60 cm. and a jasper single flake was recovered at 40-50 cm. No additional cultural material was recovered.

Shovel Test #23: This pit was placed above the cutbank, 45 meters east of Shovel Test #25 and 5 meters from the edge of the cutbank. One jasper flake was recovered at 40-50 cm. The pit was dug to 60 cm. and no additional cultural material was recovered.

Shovel Test #24: This pit was placed on the beach, on the line between Transect #320 and Transect #321, 15 meters from the cutbank. The pit was dug to 60 cm. and a bone fragment was recovered from 40-50 cm.

Shovel Test #25: This pit was placed above the cutbank at the tip of the point, west of the old road. It was situated 15 meters from the cutbank. The pit was dug to 60 cm. and no cultural material was recovered.

Shovel Test #26: This pit was placed on the northern portion of the point, 11 meters south of the cutbank and due north of Shovel Test #22. This pit was dug to 60 cm. and no cultural material was recovered.

Cultural Affiliation

Based upon the diagnostic artifacts recovered from the site, the cultural affiliation is Woodland.

Conclusion

Compared to 25HN50, the density of cultural material recovered from this site was quite low, especially keeping in mind that the spot/transect method was utilized on 25HN50, whereas on this site all cultural materials were collected from the surface. Thus, the over-all density of artifacts from 25HN40

seems be lower than 25HN50. The majority of cultural material was recovered from the tip of the point and extending around it along the south shore. A few flakes were recovered from the shovel tests above the cutbank indicating that at least a portion of the site is still intact. However, the beach area is subject to periodic inundation which has caused a great deal of damage to the site as can be seen by Plate 16 taken in 1979 and Plate 17 taken in 1980 from the same approximate location.

FIGURE 17: FREQUENCY AND DISTRIBUTION OF ARTIFACTS FROM 25HN40

```
336   I
337   I
336   I
335   I
334   I
333   I +++++                                                    0/5   5
332   I
331   I
330   I
329   I
328   I
327   I
326   I
325   I
324   I
323   I
322   I+                                                         0/1   1
321   I
320   I@@+
319   I@@@@++
318   I@@@@@@@@@@@+                                            11/1  12
317   I@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@++++                   31/4  35
316   I@@@@@@@@@@@@@@@@@@@@++++++                              18/6  24
315   I@@@@@@@@@@@@@@@@++++++++++++++++++++++++++++++++++++++  14/35 49
314   I@++++++++++++++++++++++++                                1/25  26
313   I@@@++++++++++++                                          3/12  15
311   I@@@@@++++++                                              5/6   11
310   I@@+++                                                    2/3    5
309   I@++++                                                    1/4    5
308   I@@@@++                                                   4/2    6
307   I+++                                                      0/3    3
306   I+++                                                      0/3    3
305   I++                                                       0/2    2
304   I++++                                                     0/4    4
303   I
302   I
301   I++                                                       0/2    2
300   I+                                                        0/1    1
```

@ = SINGLE ARTIFACTS FROM FIRST INSPECTION

\+ = SINGLE ARTIFACTS FROM SECOND INSPECTION

I = WATERLINE

25HN50, Unnamed

Previous Investigations

Prior to the 1977 survey no investigations had taken place at this site. There have been no surface collections taken from the site. All of the artifacts observed during the 1977 survey (274 lithic and 5 ceramic) were left in place. No cultural affiliation has been assigned to the site.

General Description

This site is also situated on the beach with cultural material also found atop the cutbank which is approximately 10-14 meters in height. On the beach, the ground surface visibility was nearly 100 percent with heavy trees to the north of the site area. Above the cutbank, the ground surface visibility was less than 15 percent because of the heavy grass cover. There is a camping area above the site on the cutbank with road cuts and camping pads which have caused some disturbance to the site.

Site Testing

Because of the density of artifacts observed on the beach, it was necessary to utilize the spot/transect method in order to determine the areal extent of the site, as well as to identify potential areas of artifact concentrations. Shovel testing and auger testing were also done on the site.

Spot/Transect Surface Reconnaissance: This procedure was completed in two phases. Initially, twelve transects (#200 through #211) were placed in an east-northeast orientation, beginning at the base of the path, running down to the beach and into the cove. Subsequently, 5 additional transects (#250 through #254) were placed west of Transect #200 running west along the beach. The artifacts that were recovered from the site include 193 jasper flakes, 2 chert flakes, 1 obsidian flake, 2 quartz flakes, 9 feldspar flakes, 1 flint flake, 42 jasper fragments, 1 chert fragment, 1 flint fragment, 1 chalcedony fragment, 3 jasper scrapers, 2 jasper burins, 1 jasper preform, 1 chert preform, 2 feldspar cores, 2 triangular jasper projectile points, 9 cordwrapped body sherds, 2 plain body sherds, 2 cordwrapped/smoothed body sherds, 1 split body sherd, 31 bone fragments, and 1 tooth fragment. A single jasper projectile point was recovered from the general surface inspection.

The frequency and distribution of cultural material seem to suggest two unique concentrations of artifacts. The first is on the beach and may possibly extend into the water. The second is back into the cove, closer to the cutbank (See Figures 18 and 19). It might be possible that the second concentration is representative of another site that is being eroded onto the beach. The approximate size of the concentration on the beach is 250 meters (length parallel to the water) by 35 meters and the

size of the second is 100 meters by 40 meters.

Shovel Test #12: This pit was placed on Transect #209, 30 meters from the waterline. In the first level, 0-10 cm, 13 jasper flakes, 1 jasper fragment, and 1 shell were recovered. At 18 cm. there was a layer of vegetation in the pit, possibly reflecting a previous beach surface. The pit began filling with water at 45 cm. No cultural material was found below 10 cm.

Shovel Test #13: This pit was placed above the cutbank just off the road. It was 8 meters west of the edge of the cutbank and 17 meters north of the pathway to the beach. A single jasper flake was recovered at 30 cm., two jasper flakes at 40-50 cm, and 1 jasper flake at 50-60 cm. At 70 cm. shoveling began to get difficult, thus, the auger was used to finish the pit. Two additional jasper flakes were recovered from 70-80 cm. and the pit was closed at 86 cm.

Shovel Test #14: This pit was placed above the cutbank 70 meters west of Shovel Test #13. The pit was located between two camping pads. It was dug to 80 cm. and no cultural material was recovered.

Auger Test #11: This pit was placed on Transect #209, 85 meters from the waterline. It's primary purpose was to determine the depth of cultural material within the second concentration. The pit was dug to 85 cm. and no cultural material was recovered.

Auger Test #12: This pit was placed on Transect #211, 95 meters from the waterline. Again, the intent was to determine the depth of the site in this area. The pit was dug to 85 cm. A single jasper flake was recovered from 60-70 cm., but no additional cultural material was found.

Auger Test #13: This pit was placed on Transect #206, 45 meters from the waterline. Surface reconnaissance in this area indicated that there were only scattered artifacts on the surface. In other words, this was the "break" between the two concentrations. The pit was dug to 70 cm. and no cultural material was recovered.

Auger Test #14: This pit was placed on the beach on Transect #203, 10 meters from the waterline. This area is the western extent of the beach concentration. The pit was dug to 80 cm. and no cultural material was recovered.

Auger Test #15: This pit was placed on the northeastern edge of the beach concentration. It was located on Transect #211, approximately 20 meters from the waterline. The pit was dug to 84 cm. and no cultural material was recovered.

Auger Test #16: This pit was placed between the two concentrations of artifacts on Transect #203, 30 meters from the waterline. As in Auger Test #13, no cultural material was found. The pit was dug to 70 cm.

Auger Test #17: This pit was placed on the northeastern edge of the ridge concentration. The pit was dug to 85 cm. and no cultural material was recovered.

Cultural Affiliation

Based upon the diagnostic artifacts recovered from the site, the cultural affiliation is Woodland.

Conclusion

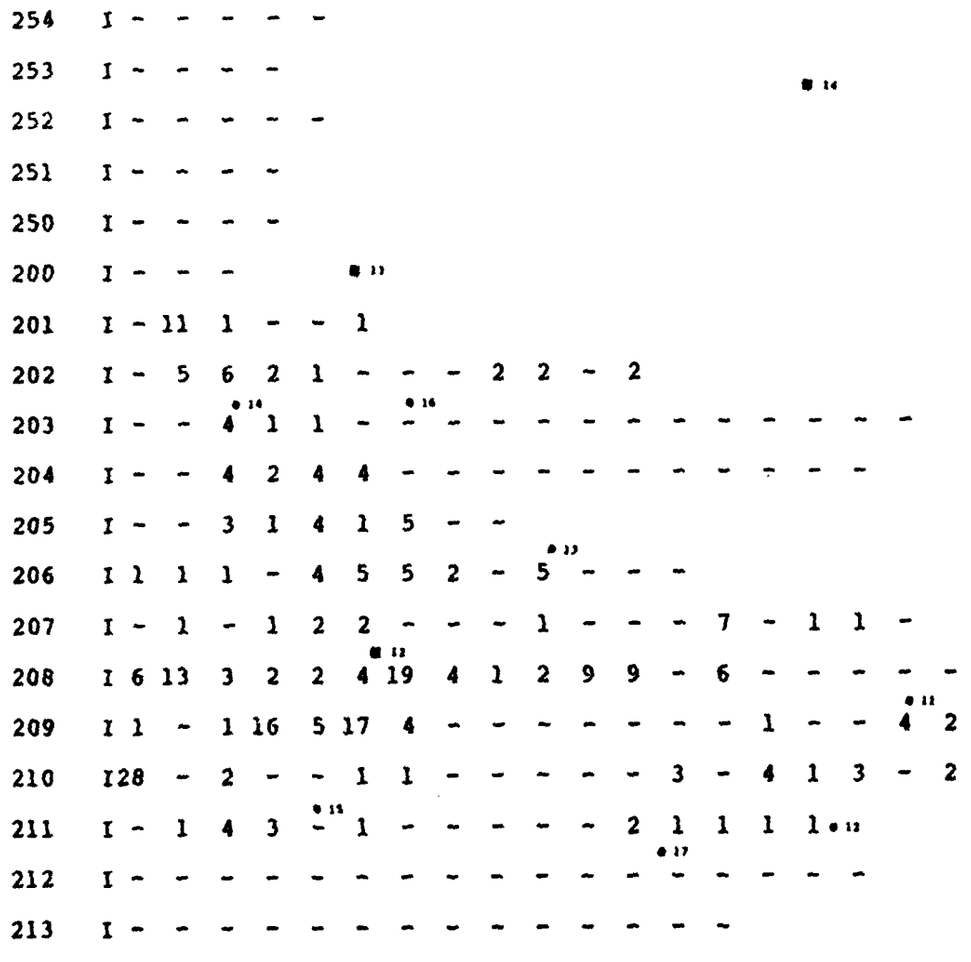
According to Pepperl and Falk (1978:30), "All materials are being subjected to destructive impacts either through wave action or vehicular traffic on the road. Vandalism in the form of surface collecting was noted during investigation of the area..." When the site was revisited in 1980, both forms of damage were evident.

The impact of wave action is evidenced by the litter of cultural material on the beach, including lithic flakage and tools, pottery, bone, teeth, etc. This predominance of artifacts on the beach was not as evident in 1979 as in 1980. Most importantly, the majority of the artifacts were observed in low beach ridges that are former water lines (See Plate 18). This certainly indicates that a great deal of cultural material is being washed onto the beach.

On-going public vandalism is indicated by small piles of artifacts scattered around the beach. It appears that individuals randomly collected artifacts from the surface, put them in piles, and then took out the desired pieces.

It seems likely that the two concentrations of artifacts recovered from the site represent two unique components- one that is inundated and being washed onto the beach, and another that is eroding from the cutbank. The concentration of artifacts situated on the beach near the point and extending eastward is the site initially located and described by the 1977 survey.

FIGURE 18: FREQUENCY AND DISTRIBUTION OF ARTIFACTS FROM 25HN50



● = SHOVEL TESTS ■ = AUGER TESTS

I = WATERLINE

213-200,250-254 = TRANSECT NUMBERS

FIGURE 19: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HN50

213 I

212 I

211 I @@@@@@@@

210 I @@@@@@@@@@@@@@@@@@@@@@

209 I @@@@@@@@@@@@@@@@@@@@@@@@

208 I @@

207 I @@@@@@@

206 I @@@@@@@@@@@@

205 I @@@@@@@

204 I @@@@@@@

203 I @@@

202 I @@@@@@@@@@

201 I @@@@@@@

200 I

250 I

251 I

252 I

253 I

254 I

@ = TWO ARTIFACTS

I = WATERLINE

213-200,250-254 = TRANSECT NUMBERS

25HN53, Unnamed

Previous Investigations

No previous investigations have been done at the site and no material has been collected from it. During the 1977 survey, Pepperl and Falk (1978) observed but did not collect 5 lithic specimens on the surface. The cultural affiliation of the site had not been determined.

General Description

This site is situated on the beach which ranges in width from 5 meters to 85 meters. Along the waterline the ground surface visibility is 100 percent. Closer to the 1 to 3 meter-high cutbank, the ground surface visibility is reduced to approximately 20 percent due to willow and cottonwood trees.

Site Testing

The site was tested utilizing ground surface reconnaissance, spot/transect surface reconnaissance, shovel testing, auger testing and cutbank planing.

Surface Reconnaissance: Limited surface reconnaissance was done at the site. Because of the relatively sparse nature of the artifact scatter, it seemed necessary to obtain information pertaining to the frequency and distribution of the artifacts. Thus, the spot/transect method was utilized. Two broken jasper projectile points were recovered, one was the midsection only and the other had a broken base (See Plate 1).

Spot/Transect Ground Surface Reconnaissance: This method was applied to the site in the standard manner. Transects #401 through #425 were placed on the site, and cultural material was recovered from Transects #401 through #419. The frequency of artifacts was low and the distribution was somewhat scattered (See Figures 20 and 21). Just less than half of the total artifacts were recovered from the west end of the site, within 10 meters of the waterline. The remainder of the artifacts were scattered from 5 to 45 meters away from the waterline. Collected by the spot/transect method were 18 jasper flakes, 2 flint flakes, 6 chert flakes, 1 jasper fragment, 1 jasper preform, 1 jasper turtleback scraper, 1 jasper scraper (See Plate 2), 1 damaged jasper projectile point, and 4 bone fragments.

Shovel Test #20: This pit was placed above the cutbank in line with Transect #415. It was situated 3 meters from the edge of the cutbank. The pit was dug to 60 cm. There were some small bits of charcoal recovered from the pit at 0-10 cm. and 30-40 cm. No cultural material was recovered.

Shovel Test #21: This pit was due south of Shovel Test #20 on Transect #415. It was situated 7 meters from the base of the

cutbank. The pit was placed here in order to determine if any potential features (such as a fire hearth) were being eroded off the cutbank onto the beach. The pit was dug to 60 cm. and no cultural material was recovered.

Auger Test #20: This pit was placed on Transect #416, 45 meters from the cutbank and 35 meters from the waterline. It was placed in an area where no artifacts had been recovered during the surface investigation. The pit was dug to 60 cm. and no cultural material was recovered.

Auger Test #21: This pit was placed on Transect #414, 12 meters from the waterline and 45 meters from the cutbank. The pit was dug to 40 cm. and 1 single jasper flake was recovered from 0-5 cm. No additional cultural material was found.

Auger Test #22: This pit was placed on Transect #405, 5 meters from the waterline and 15 meters from the cutbank. The pit was dug to 55 cm. and no cultural material was recovered.

Auger Test #23: This pit was placed on Transect #408, 40 meters from the waterline along the base of the cutbank. This area yielded several artifacts during surface reconnaissance, but the auger test yielded negative results. It was dug to 65 cm. and no cultural material was recovered.

Cutbank Planing: The cutbank within the site area was examined but no cultural material was recovered.

Cultural Affiliation

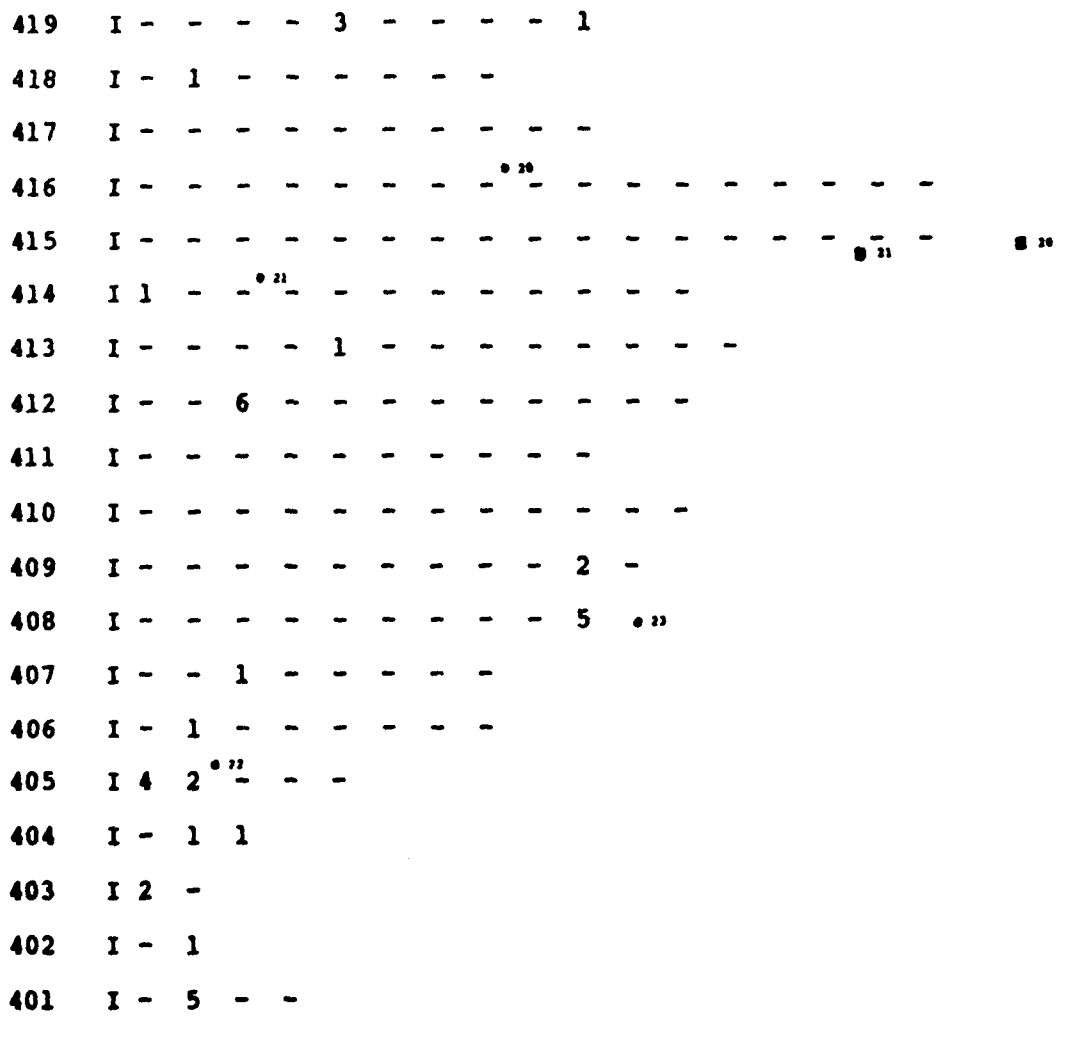
Based upon the lack of diagnostic artifacts recovered from the site, the cultural affiliation remains unassigned.

Conclusion

There is some indication of disturbance at the site, including rubble from the road, the remnants of the Burlington and Missouri Railroad, and evidence of heavy public use. The cabins situated just north of the site probably generate much of the public usage of the beach. Additionally, the site area is at an elevation of 1940 m.s.l. and is therefore subject to periodic partial or total inundation.

If this site was originally located on the cutbank, it has been completely destroyed by water action. However, based upon the data gathered, it is difficult to conclusively determine the origin of the site. The frequency and distribution of artifacts indicate that it is more likely that the site has been inundated and the cultural material found had been washed onto the beach.

FIGURE 20: FREQUENCY AND DISTRIBUTION OF ARTIFACTS FROM 25BM53



● = SHOVEL TEST

■ = AUGER TEST

I = WATERLINE

419-408 = TRANSECT NUMBERS

FIGURE 21: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HN53

```
419  I @@@@
418  I @
417  I
416  I
415  I
414  I @
413  I @
412  I @@@@@@
411  I
410  I
409  I @@
408  I @@@@@
407  I @
406  I @
405  I @@@@@@
404  I @@
403  I @@
402  I @
401  I @@@@@
```

@ = SINGLE ARTIFACT

I = WATERLINE

419-401 = TRANSECT NUMBERS

25HN54, Unnamed

Previous Investigations

There have been no previous investigations at the site, and no determination of cultural affiliation had been made.

General Description

This site is situated on the beach which ranges in width from 10 meters to 60 meters. The site is bordered by a 12 meter cutbank on the west and a 20 meter cutbank on the east. Along the waterline, the beach has a ground surface visibility of 100 percent. Back from the water, along the cutbank, the surface visibility is dramatically reduced to less than 5 percent visibility. Between the waterline and the base of the cutbank, there is a gradual increase of low weeds and small willow trees.

Site Testing

Minimal ground surface reconnaissance was conducted at this site. The primary methodologies utilized were spot/transect surface reconnaissance, auger testing and shovel testing.

Ground Surface Reconnaissance: Because of the frequency of artifacts and their seemingly random distribution on the surface of the site, spot/transect reconnaissance was deemed the most appropriate methodology. Thus, limited random surface reconnaissance was done on the beach, resulting in the recovery of two body sherds. Limited visual examination was also possible above the cutbank on the east side of the inlet, but no cultural material was recovered here.

Spot/Transect Surface Reconnaissance: This method was utilized along the entire beach of Sindt Point from 25HN55, 25HN16 to this site. Inclusive transects for the site are Transects #118 through #130. Transect #125 fell on the designated location of the site by Pepperl and Falk (1978). It is obvious, then, that the site extends further east and west than originally estimated.

Based upon the frequency and distribution of recovered artifacts, there appeared to be two distinct concentrations of cultural material on the site (See Figures 22 and 23). The first concentration is in Transect #120, and the second is in Transects #129 and #130, which extend into the inlet on the east side. It was originally suspected that the eastern concentration may represent a unique site, but further examination of the area proved that not to be the case. Between Transects #118 and #127, the artifacts were distributed between the waterline and the cutbank.

A total of 180 artifacts were recovered from the spot/transect method. They include 82 jasper flakes, 27 chert

flakes, 13 jasper fragments, 5 chert fragments, 1 jasper scraper, 1 jasper side-scraper, 1 chert drill (base only), 2 cordwrapped/smoothed body sherds, 1 cordwrapped body sherd, 45 bone fragments, 1 tooth fragment, and an historically recent shotgun shell.

Shovel Test #1: This pit was placed on Transect #130 approximately midway between the waterline and the cutbank. The pit was dug to 50 cm. and no cultural material was recovered.

Shovel Test #2: This pit was placed on Transect #128 in the inlet, 25 meters from the cutbank. This location was chosen in order to determine if the cultural material extended back into the inlet. The pit was dug to 60 cm. and no cultural material was recovered.

Shovel Test #3: This pit was placed above the cutbank on the east side of the inlet. It was located 5 meters east and 10 meters south of the edge of the cutbank. The pit was dug to 60 cm. and no cultural material was recovered.

Shovel Test #4: This pit was placed on Transect #130 approximately 10 meters from the waterline. The pit was dug to 60 cm. and no cultural material was recovered.

Auger Test #1: This pit was placed on Transect #120, 15 meters from the waterline. This was the area of heaviest concentration of artifacts. The pit was dug to 50 cm. and no cultural material was recovered.

Auger Test #2: This pit was placed on Transect #125, 10 meters from the waterline. The pit filled with water at 60 cm. but was dug to 80 cm. No cultural material was recovered.

Auger Test #3: This pit was placed to the west of the site area as indicated by the distribution of surface artifacts. It was placed in the approximate center of the inlet, 5 meters from the waterline. The pit exhibited high organic content from 40 to 75 cm., at which depth it filled with water, and was closed at 80 cm. The only cultural materials recovered were three jasper flakes at 10-20 cm. It seems likely, then, that this site extends well into the inlet.

Cultural Affiliation

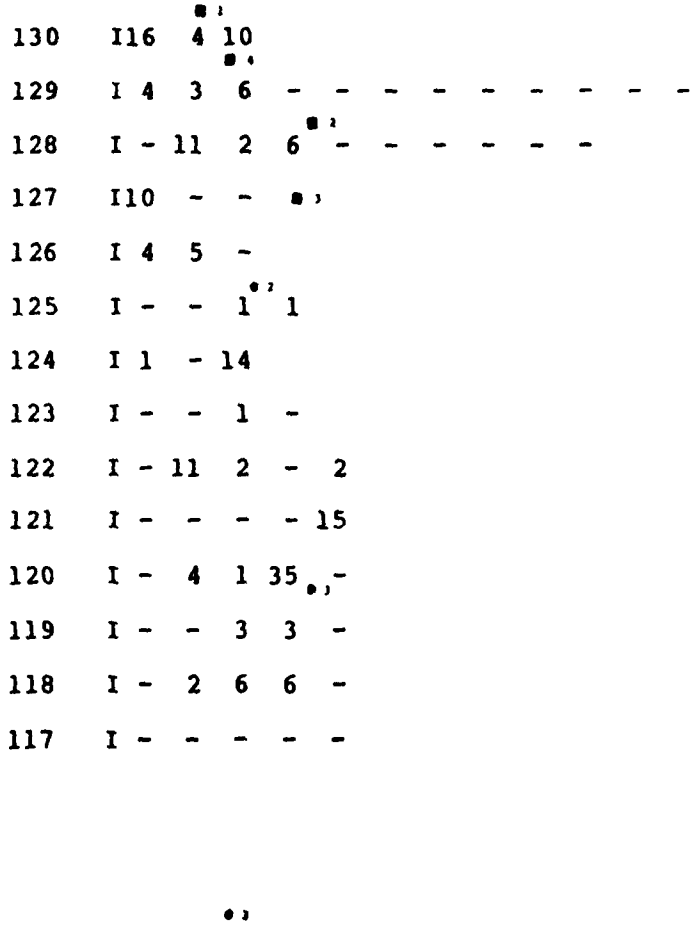
Based upon the diagnostic artifacts recovered from the site, the cultural affiliation is Upper Republican Aspect.

Conclusion

Again, it is not unusual for a site to be represented by only a few artifacts in a limited area at one time and subsequently to be represented by numerous artifacts spread over a sizeable area. The powerful effect of erosion on the north beach of Sindt Point can remove all or part of an archaeological

site from its point of deposition and redeposit the artifacts along the beach. Erosion can also completely bury cultural material that would otherwise be visible on the surface (See Plate 20). For example, when this site was tested in 1979, the beach was littered with pebbles, gravel, and medium-sized stones. When the site was revisited in 1980, the beach was covered with a fine sandy silt and the pebbles and stones had either been washed away or were completely covered. This kind of action on cultural material makes the determination of original site location, site extent, and exact site boundaries extremely difficult.

FIGURE 22: FREQUENCY AND DISTRIBUTION OF ARTIFACTS FROM 25HN54



● = SHOVEL TESTS

■ = AUGER TESTS

I = WATERLINE

130-117 = TRANSECT NUMBERS

FIGURE 23: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HN54

```
117  I
118  I @@@@@@@@@@@@@@
119  I @@@@@@
120  I @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
121  I @@@@@@@@@@@@@@@
122  I @@@@@@@@@@@@@@@
123  I @
124  I @@@@@@@@@@@@@@@
125  I @@
126  I @@@@@@@@@
127  I @@@@@@@@@@
128  I @@@@@@@@@@@@@@@@@@@
129  I @@@@@@@@@@@@@
130  I @@@@@@@@@@@@@@@@@@@@@
```

@ = SINGLE ARTIFACT

I = WATERLINE

117-130 = TRANSECT NUMBERS

25HN55, Unnamed

Previous Investigations

Prior to this survey, there had been no formal investigations at the site. A private collection containing ceramics, lithics, and bone fragments is curated at the University of Nebraska-Lincoln. No cultural affiliation had been assigned to the site.

General Description

This site is situated on the beach which ranges from 25 meters to 60 meters in width. The ground surface visibility of the site is approximately 90 percent, except along the base of the cutbank where large trees have fallen, reducing the visibility to 20 percent. The cutbank in the site area is 3.5 meters in height.

Site Testing

Because this site is in close proximity to 25HN16 to the north, spot/transect surface reconnaissance was utilized in order to determine the boundaries of both sites. Shovel testing, auger testing and cutbank planing were also done.

Spot/Transect Surface Reconnaissance: This method was applied to Sindt Point beginning at 25HN54, north of the site. The transects representing this site are Transects #100 through #111 and Transects #150 through #154. It should be noted here that in the field, gaps in numbering of transects were intentional. Thus, at this site, Transects #100 through #130 were completed around Sindt Point. The following day, additional transects were placed on 25HN55 beginning at Transect #150 which was placed adjacent to Transect #100 (See Figure 24).

The artifacts that were recovered from the site include 17 jasper flakes, 14 chert flakes, 6 jasper fragments, 6 chert fragments, 17 bone fragments, 1 cordwrapped body sherd, 1 cordwrapped/smoothed body sherd, 1 net-impressed body sherd, 1 smoothed rim sherd and 1 scalloped rim sherd (See Plate 2). The distribution of artifacts seems to be relatively uniform, i.e., not concentrated along the beach or the cutbank. The heaviest concentration of artifacts recovered from the site was along its northern boundary, in Transect #109 (See Figure 25). No cultural material was collected except the artifacts recovered from the transects.

Shovel Test #1: This pit was placed above the cutbank 10 meters from the edge. It was in line with Transect #150. It was dug to 65 cm. and no cultural material was recovered.

Shovel Test #2: This pit was placed above the cutbank. It was placed 10 meters from the cutbank in line with Transect #104.

The pit was dug to 60 cm. and no cultural material was recovered.

Shovel Test #3: This pit was placed midway between Shovel Test #1 and #2, 4 meters west of the cutbank in line with Transect #101. The pit was dug to 40 cm. and no cultural material was recovered.

Auger Test #1: This pit was placed on the beach on Transect #107, 30 meters west of the waterline and 20 meters from the cutbank. This location was chosen in order to determine if the cultural material extended back to the cutbank. The pit was dug to 85 cm. and no cultural material was recovered.

Auger Test #2: This pit was placed on the beach on Transect #110, 40 meters west of the waterline. Artifacts were recovered in this area by the spot/transect method. The pit was dug to 85 cm. and no cultural material was recovered.

Auger Test #6: This pit was placed on Transect #107, 5 meters from the waterline. It was dug to 65 cm. and 1 jasper flake and a jasper fragment were recovered at 0-10 cm.

Auger Test #7: This pit was placed on Transect #101, 35 meters from the waterline. It was at this location that the only rim sherd from the site was recovered. The pit was dug to 60 cm. and no cultural material was recovered.

Cutbank Planing: The average height of the cutbank along the site area was 4.5 to 6 meters. It was visually examined but no features or cultural materials were observed.

Cultural Affiliation

Based upon the diagnostic artifacts recovered from the site, the cultural affiliation is Upper Republican Aspect (Lost Creek Focus).

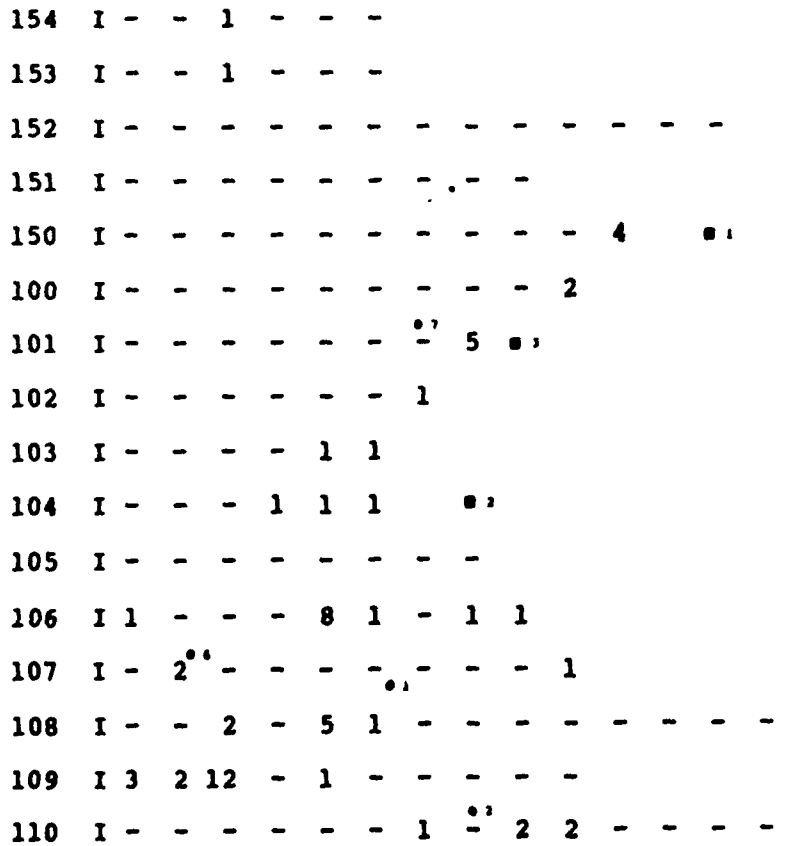
Conclusion

Based upon the lack of artifacts recovered from above the cutbank, it is apparent that if the site was originally located there, it has been washed onto the beach by wave action. Sindt Point is particularly susceptible to erosion. A comparison of the 1937 and 1974 U.S.G.S. maps of the point indicates that approximately 115 meters have been eroded from the north shore of the point. The destructive impact of wave action has been less on the south shore, but it is still evident that any cultural materials located atop the cutbank will eventually be eroded away.

Additionally, Sindt Point is subject to heavy public use. Evidence of vandalism of the site was apparent in the form of neat piles of cultural material scattered around the site. As with 25HN50, these appear to be the residue from random collection followed by selective recovery of desired

artifacts. From the lack of body sherds, rim sherds, or stone tools such as projectile points or knives, it is assumed that if those types of artifacts were found on the beach they were collected. The piles of artifacts left on the beach consisted primarily of flakage, unworked stone fragments, partially utilized stone fragments, and bone fragments.

FIGURE 24: FREQUENCY AND DISTRIBUTION OF ARTIFACTS FROM 25HN55



● = SHOVEL TESTS

■ = AUGER TESTS

I = WATERLINE

154-150,100-111 = TRANSECT NUMBERS

FIGURE 25: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HN55

```
154  I @
153  I @
152  I
151  I
150  I @@@@
100  I @@
101  I @@@@@
102  I @
103  I @@
104  I @@@
105  I
106  I @@@@@@@@@@@
107  I @@@
108  I @@@@@@@@@
109  I @@@@@@@@@@@@@@@@@@
110  I @@@@@
111  I @@
```

@ = SINGLE ARTIFACT

I = WATERLINE

154-150,100-111 = TRANSECT NUMBERS

25HN56, Unnamed

Previous Investigations

No previous investigations have taken place at the site, and no artifactual materials have been collected. Pepperl and Falk reported three lithics on the beach within a 50 square meter area. No cultural affiliation had been assigned to this site.

General Description

This site is situated on the beach which ranges from 30 meters to 50 meters. The ground surface visibility on the site is 90 percent, although at the base of the cutbank, downed trees have reduced the visibility somewhat. There are areas of the site where there does not appear to be a cutbank that is distinct. Rather, there is a gradual rise from the sandy beach into heavy stands of trees.

Site Testing

Spot/transect surface reconnaissance, shovel testing, auger testing, and cutbank planing were done at the site.

Spot/Transect Surface Reconnaissance: The utilization of this particular field method was initiated at this site. Transects were placed, beginning with Transect #1 and continuing to Transect #91, around the entire beach of White Cat Point. Thus, 2275 linear meters of shoreline were examined. At this site, artifacts were recovered from Transects #3 through #10. A single jasper flake was recovered from Transect #3.5, a single jasper fragment from Transect #5.3, another jasper fragment from Transect #6.1, 1 jasper flake and 2 jasper fragments from Transect #6.3, a jasper flake from Transect #7.4, a jasper preform from Transect #9.3, a chert scraper from Transect #9.4, and a single jasper flake from Transect #10.3 (See Figures 26 and 27).

Shovel Test #14: This pit was placed 7 meters from the edge of the cutbank in line with Transect #2. It was done in order to determine if any portion of the site remains intact. The pit was dug to 70 cm. and yielded no cultural material.

Auger Test #14: This pit was placed above the cutbank, 10 meters west of Shovel Test #14. The access road to White Cat Point lies 4 meters from the edge of the cutbank and the pit was placed 7 meters from the center of the road. It was dug to 90 cm. and yielded no cultural material.

Cutbank Planing: Where possible within the site area, the cutbank was examined. However, no cultural material was recovered.

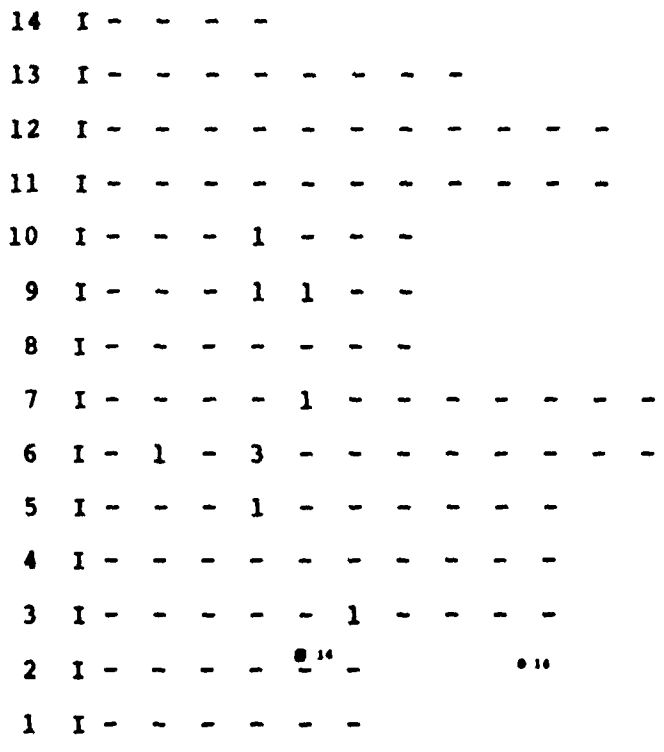
Cultural Affiliation

Based upon the lack of diagnostic artifacts recovered from the site, the cultural affiliation remains unassigned.

Conclusions

Within the site area, the average distance between the waterline and the cutbank is 40 meters. The majority of the artifacts were recovered within 15 meters of the waterline between 1938.65 m.s.l. and 1938.70 m.s.l.). Based upon this data and the cultural material observed during the 1977 survey, it is difficult to conclusively determine whether the site is eroding from the cutbank or being redeposited onto the beach by water action. However, it seems likely, based upon the subsurface testing above the cutbank and the severe erosion that has taken place on White Cat Point, that the site has been totally destroyed by erosion.

FIGURE 26: FREQUENCY AND DISTIBUTION OF ARTIFACTS FROM 25HM56



● = SHOVEL TESTS

■ = AUGER TESTS

I = WATERLINE

14-1 = TRANSECT NUMBERS

FIGURE 27: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HN56

```
14  I
13  I
12  I
11  I
10  I @
 9  I @@
 8  I
 7  I @
 6  I @@@@
 5  I @
 4  I
 3  I @
 2  I
 1  I
```

I = WATERLINE

14-1 = TRANSECT NUMBERS

25HN57, Unnamed

Previous Investigation

There have been no previous investigations at the site. A private collection consisting of lithics, ceramics, and a stone pipe fragment is curated at the University of Nebraska-Lincoln. No cultural affiliation had been asigned to the site.

General Description

This site is situated on the beach ranging from 10 meters to 35 meters in width. The ground surface visibility of the site near the waterline was 100 percent. Toward the cutbank, there were cottonwood seedlings and thick weeds often reducing the visibility to less than 10 percent. The cutbank along the site area was 1.5 meters in height.

Site Testing

The location of the site was apparent from a scatter of artifacts on the beach. However, in order to test the site for the National Register of Historic Places, a determination of site boundaries had to be made. Thus, general ground surface reconnaissance, spot/transect surface reconnaissance, auger testing, shovel testing and cutbank planing were done.

Ground Surface Reconnaissance: The general surface inspection yielded a total of 24 artifacts including 3 jasper flakes, 1 chert flake, 3 jasper fragments, 1 jasper preform, 1 bone fragment, 1 jasper projectile point (See Plate 2), 8 cordwrapped body sherds, 3 cordwrapped/smoothed body sherds, and 3 smoothed body sherds. These artifacts were recovered prior to utilization of the spot/transect method, and were randomly scattered over the site. Other cultural material was observed on the site between the transects, but was not collected. There was also ample evidence of continual public use of the site area. Numerous fragments of china, crockery, glass, and cans were observed.

Spot/Transect Surface Reconnaissance: The southeastern limit of 25HN11 was at Transect #25. No cultural material was recovered between Transects #25 and #27, a distance of 50 meters. Thus, the northwest extension of the site was at Transect #27. The southeastern limit was at Transect #40, making the linear extent of the site 350 meters.

The distribution and frequency of cultural material recovered utilizing this method suggested that the heaviest concentration of artifacts was in Transect #32 (See Figure 28). Otherwise, the distribution and frequency of recovered artifacts was fairly uniform, covering nearly the entire width of the beach. At the southeast edge of the site, the distance from the waterline to the cutbank ranged from 10 to 15 meters. As can be

seen from Figure 28 and 29, artifacts were recovered at or within 5 meters of the cutbank. On the northeast edge of the site, the distance between the waterline and the cutbank ranged from 25 to 35 meters. Yet, except in Transect #31, the cultural material was recovered 10 meters or more away from the cutbank.

The material collected using the spot/transect method consisted of 118 jasper flakes, 1 chert flake, 1 chalcedony flake, 28 jasper fragments, 1 jasper projectile point (basally thinned), 1 cordwrapped body sherd, 9 bone fragments, 1 fish bone, and 2 tooth fragments.

Shovel Test #17: This pit was placed above the cutbank 12 meters from the edge. It was situated in line with Transect #32 in order to determine if any of the site still remained in tact in the cutbank. The pit was dug to 60 cm. Four jasper flakes and a jasper fragment were recovered from 0-10 cm. and 2 jasper flakes, 1 jasper fragment, and an historic ceramic sherd were recovered from 10-20 cm.

Auger Test #18: This pit was placed on the beach as close to the cutbank as the downed trees would allow. It was situated 20 meters from the waterline on Transect #28. The pit was dug to 60 cm. and no cultural material was recovered.

Auger Test #19: This pit was placed on the beach 10 meters from the waterline on Transect #35. The pit was dug to 70 cm. and no cultural material was recovered.

Cutbank Planing: The cutbank within the site area is low (approximately 2 meters). It was visually examined and no evidence of cultural material was observed.

Cultural Affiliation

This site is a multi-component site. A basal thinned projectile represents the Paleo-Indian or the Early Archaic; the ceramics are Upper Republican Aspect and Dismal River, and there is an obvious historic component at the site.

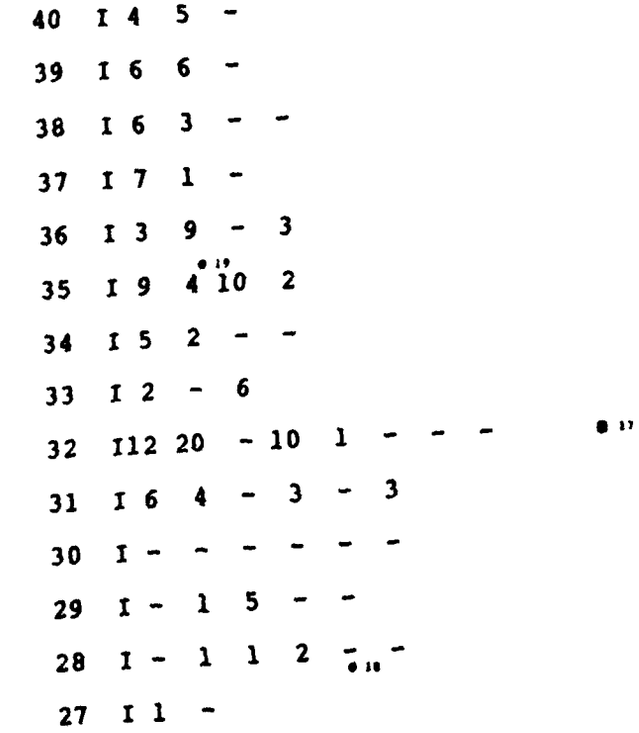
Conclusion

Utilization of the spot/transect methodology facilitated the identification of the exact northwest boundary of this site. There was a definable "break" in the distribution of artifacts between this site and 25HN11. However, that was not the case on the southeastern limit of the site. As can be seen in Figure 28, cultural material was recovered from Transect #26 through Transect #58. Thus, the determination of site boundaries for 25HN57, 25HN37, and 25HN58 was made based upon the distribution of artifacts and the frequencies of artifact types, i.e., ceramics. However, 25HN57 may indeed be a continuation of 25HN37, as suggested by Pepperl and Falk (1978:35).

In looking at the fairly uniform distribution of artifacts

between the beach and the cutbank, it is somewhat difficult to determine if the site is eroding from the cutbank and the artifacts are being redeposited uniformly on the beach, or if the site is being inundated and wave action is washing the artifacts onto the beach.

FIGURE 28: FREQUENCY AND DISTRIBUTION OF ARTIFACTS FROM 25HN57



● = SHOVEL TEST

■ = AUGER TEST

I = WATERLINE

40-27 = TRANSECT NUMBERS

FIGURE 29: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HN57

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40  I @@@@@@@@@
39  I @@@@@@@@@@@@
38  I @@@@@@@@@
37  I @@@@@@@@
36  I @@@@@@@@@@@@@@@
35  I @@@@@@@@@@@@@@@@@@@@@@@@@
34  I @@@@@@@
33  I @@@@@@@@
32  I @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
31  I @@@@@@@@@@@@@@@@
30  I
29  I @@@@@@
28  I @@@@
27  I @
```

@ = SINGLE ARTIFACT

I = WATERLINE

27-40 = TRANSECT NUMBERS

25HN58, Unnamed

Previous Investigations

No previous investigations have taken place at the site nor has any cultural material been collected.

General Description

This site is located on the beach ranging from 5 meters to 50 meters in width. The site area has excellent ground surface visibility. Unlike many of the other sites, the visibility over the site is 95 percent. There was sparsely scattered weeds which did not reduce the visibility substantially. The cutbank in the site area was approximately 2 meters in height.

Site Testing

The location of the site was not difficult to determine, but the boundaries of the site posed a problem. Cultural material had been recovered continuously from 25HN57, 25HN37, and 25HN58. Determining the site limits was done by utilizing the spot/transect method of surface reconnaissance. Additionally, auger tests were dug at the site and cutbank planing was done.

Spot/Transect Surface Reconnaissance: The transects included on this site are Transect #50 through Transect #64. Transects #59 through #63 yielded no cultural material. However, the artifacts recovered from Transect #64 were included with this site because 25HN59 was 350 meters west, which seemed to be too large a "break" to warrent their inclusion in that site.

Unlike 25HN57 and 25HN37, the distribution of artifacts recovered was not concentrated along the waterline. At this site, the artifacts were found along and at the base of the low cutbank (See Figures 30 and 31). The exceptions to this were Transects #50 and #51, in which cultural material was recovered every 5 meters from the waterline to the cutbank. Artifacts recovered include 52 jasper flakes, 2 chert flakes, 11 jasper fragments, 1 flint fragment, 1 feldspar fragment, 1 flint scraper, 1 flint projectile point, 1 hammerstone, 2 plain body sherds, 2 cordwrapped/smoothed body sherds, 2 smoothed body sherds, 1 smoothed rim sherd, and 19 bone fragments.

Auger Test #7: This pit was placed above the cutbank 5 meters from the edge along transect #58. The pit was dug to 60 cm. and no cultural material was recovered.

Auger Test #8: This pit was placed on the beach 10 meters from the waterline on Transect #52. It was dug to 65 cm. and no cultural material was recovered.

Auger Test #9: This pit was placed 15 meters from the cutbank on Transect #61. It was placed in this location in order

to verify the negative results of the spot/transect surface collection. The pit was dug to 65 cm. and no cultural material was recovered.

Auger Test #10: This pit was placed above the cutbank 5 meters from the edge along Transect #54. This pit was dug to 75 cm. and no cultural material was recovered.

Cutbank Planing: The cutbank within the site area was visually examined but no cultural material was recovered.

Cultural Affiliation

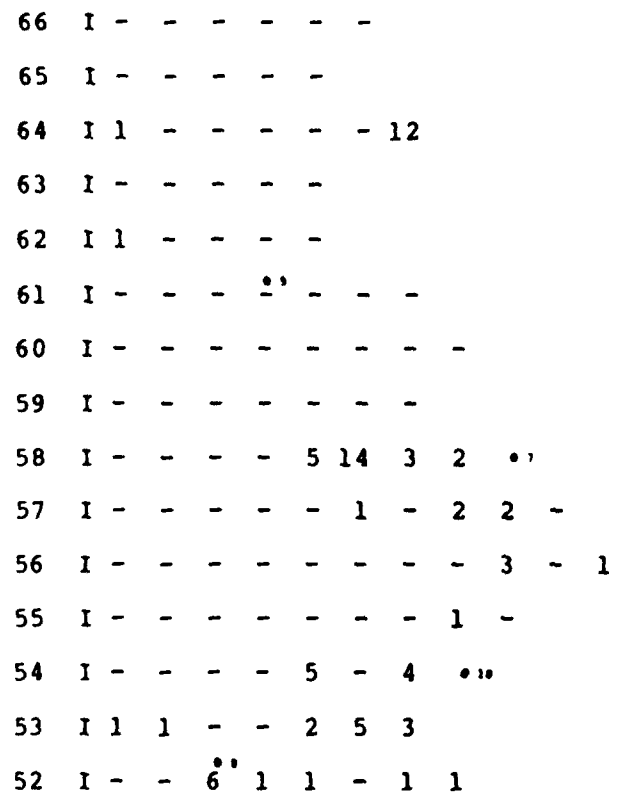
Based upon the diagnostic artifacts recovered from the site, the cultural affiliation is Dismal River Focus.

Conclusion

According to Pepperl and Falk (1978:124), the size of the site is 10 square meters. Based upon the distribution of artifacts recovered at the site, its size actually is approximately 2250 square meters. As is the case with any site located on the beach or mud-flat where wave action and inundation cause partial or total damage to the site, it is possible that the site boundaries we have defined here would seem inappropriate if the site were revisited after one or two years of subjection to wave action.

From the distribution of artifacts on the site, it appears that it is washing out of the cutbank, rather than being redeposited by wave action from an inundated site. If this is the case, the destructive forces of erosion that are prevalent at 25HN37 as well as this site will shortly undercut and erode all remaining cultural material out of the cutbank.

FIGURE 30: FREQUENCY AND DISTRIBUTION OF ARTIFACTS FROM 25HN58



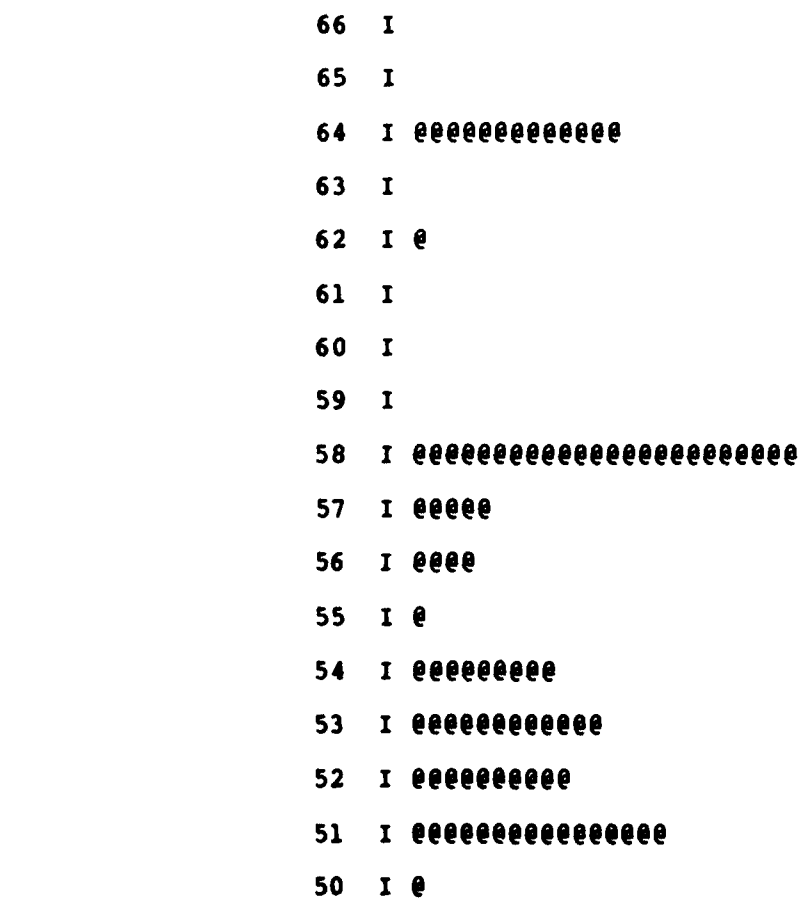
● = AUGER TESTS

I = WATERLINE

66-50 = TRANSECT NUMBERS

FIGURE 31: COMPARATIVE DISTRIBUTION OF ARTIFACTS BY TRANSECT

25HN58



@ = SINGLE ARTIFACT

I = WATERLINE

66-50 = TRANSECT NUMBERS

25HN59, Unnamed

Previous Investigations

No formal investigations have taken place at the site, but a surface collection was obtained from the site in 1973. This collection contains predominantly lithics, but also includes bone fragments, unworked stone, and a glass fragment with a possible retouched edge (Pepperl and Falk 1879:36). No cultural affiliation had been assigned to the site.

General Description

The site is situated on the beach which ranges from 20 meters to 40 meters in width. The beach slopes gradually from the 2 meter-high cutbank to the waterline. The ground surface visibility at the site ranges from 100 percent near the waterline to 5-20 percent near the cutbank because of heavy weeds.

Site Testing

The location of 25HN59 was not difficult to ascertain. However, the determination of site boundaries posed some difficulty. Thus, in addition to general ground surface reconnaissance and auger testing, the spot/transect method of surface reconnaissance was utilized along the beach.

Surface Reconnaissance: A total of 12 artifacts were recovered from the beach including 7 jasper flakes, 1 jasper fragment, 2 jasper preforms, 1 flint scraper (See Plate 3), and 1 triangular jasper projectile point. This material was not concentrated in any area of the site, but was randomly scattered throughout the site area.

Spot/Transect Surface Reconnaissance: The western extent of 25HN58 was located at Transect #64. Between Transects #64 and #77, no cultural material was recovered from the beach. Site 25HN59 was located between Transects #77 and #90, making the linear extent of the site along the beach 325 meters. Within this area, cultural material was recovered from all transects except #80, #83, and #84. However, as noted above, general visual inspection of the area revealed a scatter of artifacts throughout the site area. As can be seen from Figures 32 and 33, of the 28 artifacts recovered using this method, all but 4 were found along or within 10 meters of the waterline (1938.70 m.s.l.). The artifacts included 22 jasper flakes and 5 jasper fragments. One small cordwrapped body sherd was recovered from along the waterline on Transect #86. No bone fragments were recovered.

Auger Test #7: This pit was placed on Transect #86, approximately 1 meter from the waterline. The pit was so placed because this was the only area of the site where ceramics were recovered. At 50 cm. water began filling the bottom of the pit,

but it was dug to 70 cm. No cultural material was recovered.

Auger Test #8: This pit was placed on Transect #82, approximately 7 meters from the waterline. This pit was dug to 75 cm., but began filling with water at 53 cm. Again, no cultural material was recovered.

Auger Test #9: This pit was placed on Transect #81, 6 meters from the waterline. The pit was dug to 60 cm. and no cultural material was recovered.

Cultural Affiliation

There were two diagnostic artifacts recovered from the site. The base of the projectile point was broken and the body sherd was split. Thus, cultural affiliation remains unassigned.

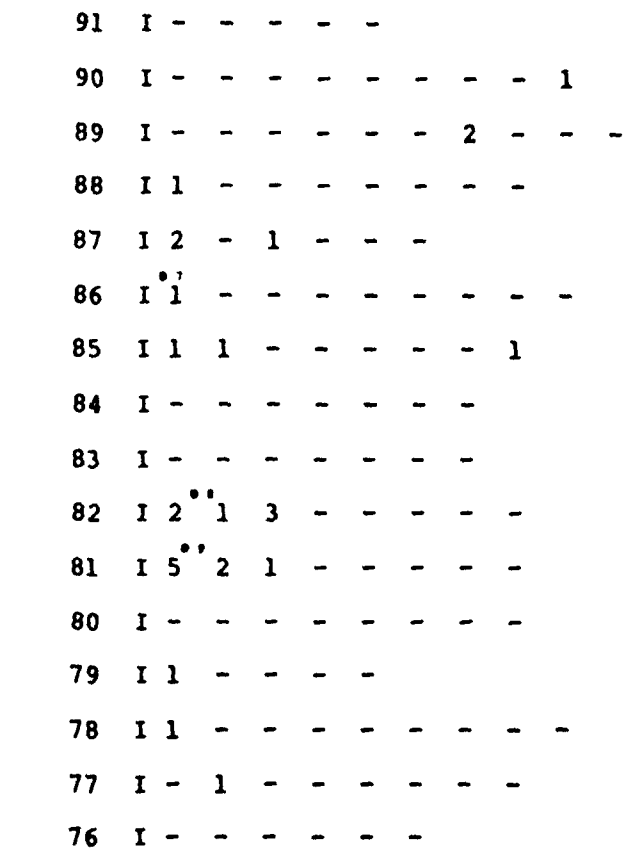
Conclusion

According to Pepperl and Falk (1978:36), "A scatter of lithic artifacts were located within an area of approximately two meters wide and 10 meters in extent along the edge of a former water level line near the present mud flat". During the 1979 survey, the same types of artifacts were recovered from the site, with the exception of the three tools recovered. However, the area of the distribution of artifacts was dissimilar to that observed in 1977. The artifacts recovered from the 1979 survey were concentrated along or within 10 meters of the waterline, extending 325 meters down the beach. Additionally, artifacts were recovered from the beach along or within 15 meters of the cutbank.

Again, it must be noted that it is not unusual for differential frequencies and distributions of artifacts to occur in areas where wave action or total inundation has been shown to have a negative effect on archaeological sites. It is very likely that if an investigator were to inspect the site annually, the frequency and distribution of artifacts found on the surface would rarely coincide from year to year. In fact, when the site was revisited in 1980, the heavy vegetation that had covered the cutbank in 1979 was completely gone in places. Also, when the beach was visually examined, cultural material was observed along or within 10 meters of the waterline in a far more limited area than in 1979.

Based upon the distribution of cultural material observed in 1977, and the distribution of cultural material in 1979 and 1980, it appears that: 1) the artifacts recovered represent the northern extent of a site that is partially inundated, or 2) the location of the site is completely inundated and wave action is washing the artifacts onto the beach. This is also supported by the fact that the cutbank profile was examined in 1977, 1979, and 1980, and no evidence of cultural material was ever observed.

FIGURE 32: FREQUENCY AND DISTRIBUTION OF ARTIFACTS FROM 25HN59



● = AUGER TESTS

I = WATERLINE

91-75 = TRANSECT NUMBERS

FIGURE 33: COMPARATIVE DISTIRBUTION OF ARTIFACTS BY TRANSECT

25HN59

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91  I
90  I @
89  I @@
88  I @
87  I @@@
86  I @
85  I @@@
84  I
83  I
82  I @@@@@@
81  I @@@@@@@@
80  I
79  I @
78  I @
77  I @
76  I
75  I
```

@ = SINGLE ARTIFACT

I = WATERLINE

91-75 = TRANSECT NUMBERS

VIII. CONCLUSION

As can be seen from the preceeding information, the Harlan County Lake area exhibits cultural materials which represent each of the major prehistoric periods found in the Central Plains.

Although each is represented, there exists a differential representation of the major time periods, with some emphasis on the Late Prehistoric and Early Historic. This seeming bias is inherent in the survey. That is, the areas chosen by the Corps of Engineers to be surveyed, the area currently inundated by water, and the surface visibility of the various upland and shoreline areas all lend some degree of bias to the results of the survey in favor of the later temporal representations rather than the earlier.

Although a significant number of the sites found during this survey, as well as a number of those previously located, could not be identified as to cultural affiliation, sites have been found that represent the Paleo-Indian Period. The Paleo-Indian component appears to be sparsely represented at three sites - 25HN57, 25HN110, and 25HN138. At each of these sites, one or two artifacts were recovered that are Paleo-Indian or are considered Paleo-Indian by their association with other types of artifacts. At 25HN57, a flint projectile point was recovered which is fluted or basally thinned which is suggestive of either a Paleo-Indian or a very Early Archaic component. At 25HN110, two crude chopping tools were recovered, along with non-human bone and teeth fragments and lithic debris. At 25HN138, a mastadon toe bone was recovered along with a jasper flake. These sites exhibited miminial data representing the Paleo-Indian Period, which may be indicative of a single, earlier component of the sites.

The Archaic is represented at Harlan County Lake for the first time at 25HN146. The flint side-notched projectile point recovered from the surface of the site appears to be Archaic (Logan Creek Focus). There were no other diagnostic artifacts recovered from the site.

The Woodland is better represented at Harlan County Lake at 25HN1, 25HN32, 25HN40, 25HN50, 25HN130, and 25HN145. The ossuary at 25HN1 was Woodland (Keith Focus) and the village site at 25HN32 was Woodland. Both of these sites are destroyed. Pepperl and Falk (1978) were unsure of the cultural affiliation of 25HN40 and 25HN50. The former was suggested to be Woodland and the latter was unassigned. Based upon the ceramics recovered from these sites, both of the sites are Woodland (Keith Focus). At 25HN130, the jasper side-notched projectile point is Woodland (Keith Focus). At 25HN145, in addition to the stone debris, a jasper side-notched projectile point was recovered that is Woodland (Keith Focus).

The majority of the sites where the determination of cultural affiliation was possible were Upper Republican (both the Lost Creek Focus and the Medicine Creek Focus). The sites that are designated as Upper Republican, based upon the ceramics recovered from the sites, are 25HN11, 25HN54, 25HN55, 25HN122, 25HN132, 25HN134, 25HN135, 25HN136, 25HN137, 25HN139, 25HN140, 25HN142, and 25HN173. Of these sites, 6 are Lost Creek Focus including 25HN11, 25HN55, 25HN134, 25HN135, 25HN137, and 25HN142. One site, 25HN140, represents the Medicine Creek Focus. The remaining thirteen sites are definitely Upper Republican but the determination of the appropriate focus to which they belong is not possible, given the collections from these sites. The only site which exhibited more than a single temporal representation is 25HN136. The majority of the ceramics from the site are Upper Republican, but there are some Dismal River Focus sherds in the collection.

The Plains Apache (Dismal River Focus) is represented by 25HN37 and as stated above, 25HN136 yielded some Dismal River ceramics.

The Early Historic is represented by one site, 25HN114. The projectile point recovered from the site is Late Prehistoric-Early Historic.

In addition to the temporal representations of the sites found in the Harlan County Lake area, the distribution of site location exhibits a high degree of spatial variation in terms of elevation. For example, of the sixty four sites found during this survey 24 (37%) were found in the present upland areas. Prior to inundation of the lake, these were areas situated well above the Republican River Valley. On the other hand, 40 (62%) were found on the present shoreline or beach, which prehistorically were areas on or just above the first terrace of the Republican River.

This spatial variation exists not only in terms of site elevations, but their orientation as well. Sites located as a result of this survey represent orientations to the Republican River, side streams and creeks, inlets, as well as a variety of other natural physiographic features.

It is this variation in time, space, and setting that contributes to the over-all archaeological value of Harlan County Lake. It is this variation, in addition to the breadth of cultural information gathered from this survey and previous surveys, that makes the area rich with research potential.

The potential for future research in the Harlan County Lake area lies in the fact that there are many yet- unknown sites within the project boundaries. According to the Scope of Work, there are 20,260 acres of federal property within the Harlan County Lake project. Of these, 13,600 are permanently inundated leaving 6,660 non-inundated acres of land. The fieldwork done for this project included 2,038 acres of Public Use areas and

1,700 acres of shoreline. Thus, of the 6,660 non-inundated acres, 3,738 have been intensively surveyed, leaving 2,922 acres yet unexamined. If the frequency of site location remains consistent, as it should, there is the potential for locating an additional 50-60 archaeological sites. This is significant when considering that the acres yet to be surveyed are in the upland areas and not subject to the damaging effects of wave action. Thus, it is possible that many of these sites will be minimally disturbed, if at all. It is possible from these sites, and the data gathered to date, to gain a more clear understanding of the prehistoric utilization of the area and to answer a variety of pertinent research questions.

Within the Harlan County Lake area, the ecological/adaptative patterns of a thorough cultural sequence can be studied. The damage done to various segments of the data by wave action and erosion do not mitigate its archaeological potential. Additionally, the particular setting of the sites at Harlan County Lake allows for a complete and long-term monitoring of the various effects of projects of this nature on prehistoric remains. After a complete inventory of sites in the areas not covered by this or previous suveys is completed, it will be possible to assess the effect of lake projects on sites of various types and locations. Furthermore, during times of low water levels, new sites (previously unrecorded) can be found which might add to the archaeological record of the area and more clearly elucidate the effects of submersion on archeological resources.

IX. RECOMMENDATIONS

The goal of archaeological research in reference to cultural resource management is to identify and evaluate resources so that appropriate action as to their disposition may be taken. It is clearly understood that management criteria recommended by the field researcher may not be possible as a result of engineering and time limitations or financial resource availability. However, recommendations as to the appropriate courses of action can and do serve as a guideline and framework for necessary management activities. In this section of the report, we will outline some general courses of action that are necessary and specific courses in reference to individual sites and site classes. This is an attempt to draw together the results of the field and laboratory analysis in such a way as to guide future management decisions.

General Recommendations

1) Based upon the results of this survey and the data compiled by previous surveys, we recommend that the Harlan County Lake project area be nominated as a District to the National Register of Historic Places (See Section X below).

2) Because of the high frequency of site distribution within the Harlan County Lake project, it is recommended that additional reconnaissance and intensive testing be conducted in the upland areas not affected by this survey. It is necessary to ascertain the full range of archaeological sites within the project area on both a temporal and a spatial basis. Based upon the data in the previous section of the report, such a survey should locate approximately 50-60 new sites that would serve to support the nomination of the project area as a District to the National Register of Historic Places.

3) The results of the work of Leatherman (1980) indicate that total inundation of archaeological sites over long periods of time alters but does not destroy the integrity of cultural resources. For this reason, when the normal pool level of Harlan County Lake drops sufficiently, we recommend that additional site survey and intensive testing be done on those sites found to be totally inundated. Such an undertaking could be done in several phases as time and money allow. First, those areas that have never been surveyed should be examined in order to locate additional unknown sites. Second, those areas that have been surveyed in the past should be briefly reexamined, and third, known archaeological sites that are completely inundated should be tested in order to ascertain the effect of inundation on site integrity.

4) A program of long-term monitoring should be established in order to gather data upon which subsequent determinations could be made as to whether cultural material recovered from the beach represents a primary deposit, a deflated deposit, or

redeposition from wave action. This should be done on a season-by-season basis, in high priority areas, in accordance with fluctuations in the water level.

5) The historic resources that are noted in the report near 25HN132 and 25HN146 should be examined by an historian or an historical archaeologist and subsequent evaluations as to the significance of the resources should be obtained.

Site-Specific Recommendations

25HN110-25HN173

Figure 34 shows the frequency of each type of newly located site as outlined in the methodology section of this report. It is interesting to note that of the shoreline sites located, the majority were lithic scatters found on the beach. Of the upland sites, the majority were lithic scatters. Of all the upland lithic scatters, most were found in close proximity to the cutbank. Thus, the forces of slumpage and erosion from the cutbank as a result of wave action will eventually have an adverse effect on these sites. Figure 35 outlines the recommended course of action to be taken for each site category.

Sites to be Preserved/Protected

These include habitation sites, camp sites, and lithic scatters found on the beach and in the cutbank; and undisturbed habitation sites, camp sites, and lithic scatters found in the uplands. For the former, it is evident that there is some portion of these sites still intact in the cutbank. Given the damaging nature of the wave action along the shoreline, it is necessary for these sites to be protected. Priority should be given here to the habitation and camp sites. The undisturbed upland sites in many cases do not require any active program of preservation except to avoid the site areas when planning campgrounds, picnic areas, road grading etc.

Sites to be Monitored

These include habitation sites, camp sites, and lithic scatters found on the beach. Monitoring should include periodic inspection of the site area including the cutbank within the site area. The cutbank was examined at each of these beach sites with negative results. However, it is not impossible, given the force of wave action, that additional cultural material may be uncovered in the cutbank. If that is the case at any of the sites, the recommended course of action should be altered from monitoring to preservation. Additionally, at many of these sites, given the data collected in the field, it is impossible to determine whether the site is eroding from the cutbank or whether it is a remnant of an inundated site. At any time that there is a draw-down in the water level of the lake, these sites should be re-examined in order to make that determination.

Sites Recommended for Further Testing

Sites that are recommended for further testing include 1) habitation sites, camp sites, and lithic scatters found on the shoreline below the normal pool level; 2) disturbed habitation sites and camp sites found in the uplands; 3) habitation sites and camp sites that were found as a result of redeposition; and 4) those sites which exhibit a Paleo-Indian or Archaic component which were previously unrepresented in the project area (25HN57, 25HN110, 25HN138 and 25HN146). The sites that are normally inundated require further testing at such time as there is a draw-down in the water level. At present, only portions of the sites are visible on the surface and additional testing is warranted in order to more closely examine the distribution and extent of these sites. The disturbed upland sites warrant additional testing with higher priority given to those sites that are being disturbed by natural forces such as wind erosion, water erosion, and cutbank slumpage. Those upland sites that are disturbed as a result of construction activities should be given low priority. All of the upland habitation and camp sites that we have termed "redeposited" were recovered from road grades or from the gravel fill that was used to surface the roads. Additional testing at the location of recovery is not recommended. However, the location of the borrowing operations requires examination in order to terminate the destruction of archaeological resources by removal of fill.

No Recommended Action

Those sites at which no action is required include all of the find spots and disturbed or redeposited upland lithic scatters. However, these sites should be maintained in the archaeological record for future researchers. The find spots reflect specific behaviors (such as loss) that may be of benefit in viewing the over-all land use patterns of the area. The disturbed and redeposited upland lithic scatters may be a reflection of larger sites that are damaged or destroyed. This is particularly pertinent for the redeposited sites. The artifacts recovered from the roads may be a minute portion of a larger archaeological resource at the borrow pits.

It is important to note here that we recommend that none of the sites located during the course of this survey be intentionally damaged or destroyed. If the construction of a recreation facility of some kind will imminently damage or destroy a portion or the whole of an archaeological site, the recommended courses of action as outlined above should be implemented. However, if the same construction can in any way avoid all areas which have exhibited cultural material, be it a large habitation site or a find spot, we recommend that every effort be taken to avoid those areas. As field researchers, however, we recognize the impracticality of such measures, given limited time, personnel, and monetary availability.

FIGURE 34: FREQUENCY OF SITES BY LOCATION, STATUS, AND TYPE

25HN110-25HN173

	SHORELINE			UPLAND		
	BEACH	BEACH/CUTBANK	INUNDATED	DISTURBED	UNDISTURBED	REDEPOSITED
HABITATION	8	-	1	-	-	-
CAMP	8	1	1	3	1	1
LITHIC SCATTER	14	3	1	6	4	3
FIND-SPOT	3	-	-	1	4	1

FIGURE 35: RECOMMENDED COURSE OF ACTION TO BE TAKEN BY SITE CATEGORY

25HN110-25HN173

	SHORELINE			UPLAND		
	BEACH	BEACH/CUTBANK	INUNDATED	DISTURBED	UNDISTURBED	REDEPOSITED
HABITATION	M	P	T	T	P	T
CAMP	M	P	T	T	P	T
LITHIC SCATTER	M	P	T	N/A	P	N/A
FIND-SPOT	N/A	N/A	N/A	N/A	N/A	N/A

P=PRESERVE/PROTECT
M=MONITOR
T=TEST FURTHER
N/A=NO RECOMMENDED ACTION

Sites Tested for the National Register

Figure 36 shows the frequencies of sites tested for the National Register of Historic Places by location, status, type, and the recommended course of action that should be taken at each site, and Figure 37 outlines the recommended course of action to be taken by site category. Most of the sites that were tested were found exclusively on the beach with no evidence of cultural material from the cutbank. However, these differ from Figure 38 in that most of these sites have undergone extensive testing and excavation. The lack of cultural material recovered from in and above the cutbank is a result of the damage caused by severe erosion.

Sites to be Protected/Preserved

These sites include the habitation and camp sites located entirely on the beach and the habitation sites located on the beach and in the cutbank. Although vast information has been gathered from many of these sites, it is necessary to make every attempt to protect those portions of the sites which are still intact and to preserve the remaining portion of those sites which are found only on the beach. Additionally, around Sindt Point and White Cat Point, it is not only the cultural resources which are affected by the erosion. The public access roads and paths along the top of the cutbank are in danger of being eroded away. Thus, those sites around the points should be given the highest priority in terms of shoreline stabilization.

Sites Recommended for Further Testing

Of all the sites tested for the National Register of Historic Places, only one, 25HN16, requires further testing. Based upon the data gathered in the field, it is apparent that this site is completely inundated. However, when there is a draw-down in the water level, this site should be retested, in order to determine the nature and extent of the site in addition to the damage done to the site from inundation.

No Recommended Action

Two sites have been destroyed and no action is required. One site, 25HN1, is an ossuary located in the uplands. For our purposes we have put this site into the category of habitation, rather than create new categories. Another upland habitation site, 25HN32, has been totally destroyed. Because these sites are completely destroyed, no specific action can be recommended.

FIGURE 36: FREQUENCY OF SITES BY LOCATION, STATUS, AND TYPE

SITES TESTED FOR THE NATIONAL REGISTER OF HISTORIC PLACES

	SHORELINE			UPLAND		
	BEACH	BEACH/CUTBANK	INUNDATED	DESTROYED	DISTURBED	UNDISTURBED
HABITATION	7	3	1	2	-	-
CAMP	1	-	-	-	-	-

FIGURE 37: RECOMMENDED COURSE OF ACTION TO BE TAKEN BY SITE CATEGORY

SITES TESTED FOR THE NATIONAL REGISTER OF HISTORIC PLACES

	SHORELINE			UPLAND		
	BEACH	BEACH/CUTBANK	INUNDATED	DESTROYED	DISTURBED	UNDISTURBED
HABITATION	P	P	T	N/A	N/A	P
CAMP	P	P	T	N/A	N/A	P

P=PRESERVE/PROTECT
T=TEST FURTHER
N/A=NO RECOMMENDED ACTION

FIGURE 38: SITE SPECIFIC RECOMMENDATIONS

	RECOMMENDATION	REMARKS
SHORELINE		
HABITATION-BEACH ONLY		
25HN11	PRESERVE/PROTECT	HIGH PRIORITY
25HN54	PRESERVE/PROTECT	HIGH PRIORITY
25HN55	PRESERVE/PROTECT	HIGH PRIORITY
25HN56	PRESERVE/PROTECT	HIGH PRIORITY
25HN57	PRESERVE/PROTECT	HIGH PRIORITY
25HN58	PRESERVE/PROTECT	HIGH PRIORITY
25HN59	PRESERVE/PROTECT	HIGH PRIORITY
25HN118	MONITOR/PROTECT	HIGH PRIORITY
25HN132	MONITOR/PROTECT	HIGH PRIORITY
25HN135	MONITOR/PROTECT	HIGH PRIORITY
25HN136	MONITOR/PROTECT	HIGH PRIORITY
25HN137	MONITOR/PROTECT	MEDIUM PRIORITY
25HN139	MONITOR/PROTECT	MEDIUM PRIORITY
25HN140	MONITOR/PROTECT	MEDIUM PRIORITY
25HN142	MONITOR/PROTECT	MEDIUM PRIORITY
HABITATION-BEACH/CUTBANK		
25HN37	PRESERVE/PROTECT	HIGH PRIORITY
25HN40	PRESERVE/PROTECT	HIGH PRIORITY
25HN50	PRESERVE/PROTECT	HIGH PRIORITY

HABITATION-INUNDATED

25HN16	FURTHER TESTING	WHEN POSSIBLE
25HN147	FURTHER TESTING	WHEN POSSIBLE

CAMP-BEACH ONLY

25HN53	PRESERVE/PROTECT	HIGH PRIORITY
25HN114	MONITOR/PROTECT	MEDIUM PRIORITY
25HN131	MONITOR/PROTECT	MEDIUM PRIOROTY
25HN133	MONITOR/PROTECT	MEDIUM PRIORITY
25HN134	MONITOR/PROTECT	MEDIUM PRIORITY
25HN143	MONITOR/PROTECT	MEDIUM PRIORITY
25HN145	MONITOR/PROTECT	MEDIUM PRIORITY
25HN146*	FURTHER TESTING	HIGH PRIORITY
25HN148	MONITOR/PROTECT	LOW PRIORITY

CAMP-BEACH/CUTBANK

25HN127	MONITOR/PROTECT	MEDIUM PRIORITY

CAMP-INUNDATED

25HN130	TEST FURTHER	WHEN POSSIBLE

LITHIC SCATTER-BEACH ONLY

25HN110**	TEST FURTHER	HIGH PRIORITY
25HN113	MONITOR	LOW PRIORITY
25HN115	MONITOR	LOW PRIORITY

* This site has suggestions of an Archaic component
** This site has suggestions of a Paleo-Indian component

25HN129	MONITOR	LOW PRIORITY
25HN138*	TEST FURTHER	HIGH PRIORITY
25HN141	MONITOR	LOW PRIORITY
25HN144	MONITOR	LOW PRIORITY
25HN162	MONITOR	LOW PRIORITY
25HN163	MONITOR	LOW PRIORITY
25HN164	MONITOR	LOW PRIORITY
25HN165	MONITOR	LOW PRIORITY
25HN166	MONITOR	LOW PRIORITY
25HN167	MONITOR	LOW PRIORITY
25HN168	MONITOR	LOW PRIORITY
LITHIC SCATTER-BEACH/CUTBANK		
25HN119	PRESERVE/PROTECT	MEDIUM PRIORITY
25HN123	PRESERVE/PROTECT	MEDIUM PRIORITY
25HN128	PRESERVE/PROTECT	MEDIUM PRIORITY
LITHIC SCATTER-INUNDATED		
25HN170	FURTHER TESTING	WHEN POSSIBLE
FIND SPOT-BEACH ONLY		
25HN169	NO RECOMMENDED ACTION	
25HN171	NO RECOMMENDED ACTION	
25HN172	NO RECOMMENDED ACTION	

* This site has suggestions of a Paleo-Indian component

UPLAND

HABITATION-DESTROYED

25HN1	NO RECOMMENDED ACTION	
25HN32	NO RECOMMENDED ACTION	

CAMP-DISTURBED

25HN122	TEST FURTHER	MEDIUM PRIORITY
25HN124	TEST FURTHER	MEDIUM PRIORITY
25HN125	TEST FURTHER	MEDIUM PRIORITY

CAMP-UNDISTURBED

25HN112	NO RECOMMENDED ACTION

CAMP-REDEPOSITED

25HN111	NO RECOMMENDED ACTION

LITHIC SCATTER-DISTURBED

25HN116	NO RECOMMENDED ACTION
25HN120	NO RECOMMENDED ACTION
25HN121	NO RECOMMENDED ACTION
25HN126	NO RECOMMENDED ACTION
25HN149	NO RECOMMENDED ACTION
25HN158	NO RECOMMENDED ACTION

LITHIC SCATTER-UNDISTURBED

25HN150	PRESERVE/PROTECT	LOW PRIORITY
25HN151	PRESERVE/PROTECT	LOW PRIORITY
25HN154	PRESERVE/PROTECT	LOW PRIORITY
25HN155	PRESERVE/PROTECT	LOW PRIORITY

LITHIC SCATTER-REDEPOSITED

25HN117	NO RECOMMENDED ACTION
25HN153	NO RECOMMENDED ACTION
25HN161	NO RECOMMENDED ACTION

FIND SPOTS-DISTURBED

25HN156	NO ACTION RECOMMENDED

FIND SPOTS-UNDISTURBED

25HN152	NO RECOMMENDED ACTION
25HN157	NO RECOMMENDED ACTION
25HN159	NO RECOMMENDED ACTION
25HN160	NO RECOMMENDED ACTION

FIND SPOTS-REDEPOSITED

25HN173	NO RECOMMENDED ACTION

X. NATIONAL REGISTER NOMINATION AS A DISTRICT

Based upon the results of the field investigation done in 1979 and 1980, and the work of Falk and Pepperl; and considering the previous work in the project area as cited by Falk and Pepperl, the over-all cultural and historical significance of the area surrounding and adjacent to Harlan County Lake is unmistakable.

This area appears to contain resources representing what may be a complete cultural sequence for the southern Nebraska-northern Kansas Republican River drainage system including sites which represent the Paleo-Indian, the Archaic, the Woodland, the Upper Republican, and Dismal River/Plains Apache. Prior to this survey, the Paleo-Indian and the Archaic had not been represented in the Harlan County Lake area.

Additionally, the broad diversity of site types in this area elucidate the pattern of prehistoric resource utilization of the Great Plains. Based upon this survey and the work of previous investigations, there are sites which range in size from find spots to large village sites. Yet, based upon the work of previous researchers (Leatherman 1980), the full range of cultural resources cannot be properly evaluated at this time. Harlan County Lake, which is in the process of altering and/or destroying many known archaeological resources, is most likely also harboring and protecting resources in its depths, which can only be evaluated during a drawdown of the water.

It is this demonstrated breadth of cultural information and these potentially undiscovered and yet protected resources which require the cultural resource manager to nominate this area as a District to the National Register of Historic Places. The contributions to Great Plains prehistory which resources from this area have made are substantial. For example, the excavations at White Cat Village in the 1940's have more clearly defined the Dismal River Aspect of the Central Plains in terms of the extent of the cultural characteristics including house type and size, functional activities within houses, artifact types, the utilization of the natural environment, etc. The potential for further significant contributions is undeniable.

Leatherman (1980) conducted a reconnaissance survey of the Nimrod Lake area during a drawdown of the water level. The areas contained within his survey had been totally inundated for 36 years. A total of 187 new sites were located, the integrity of which had been altered by inundation but not totally destroyed. Leatherman (1980) suggests that it is possible, through more intensive testing, to determine the size, function, cultural affiliation, and significance of these sites. Subsequently, this data could be integrated into the established patterns of the regional prehistory for a more comprehensive view of the land use patterns, settlement patterns, etc.

These sites were found below the tension zone. The tension

zone includes those areas which are subjected to wave action and periodic water intrusion. Sites located here, as are most of the shoreline sites found during this survey, are subject to the damaging effects of moving water. Below the tension zone where archaeological sites are totaly inundated and not subject to intensive wave action, the nature and extent of the damage to cultural resources is dramatically reduced.

The effect of the tension zone on cultural resources has been repeatedly demonstrated. Some site areas that yielded few artifacts in 1979 were littered with artifacts in 1980. Likewise, some site areas that yielded a high frequency of artifacts in 1979 were devoid of cultural material in 1980. These effects were also reflected by the high frequency of lithic scatters and find spots. Prior to our 1979 field investigation there were 45 known sites in or near Harlan County Lake. These sites ranged from lithic scatters to village sites. As a result of this survey, 64 additional sites have been recorded (an increase of approximately 150 percent). Of the 64 new sites, 14 percent (9) are habitation sites; 23 percent (15) are camp sites, 48 percent (31) are lithic scatters; and 14 percent (9) are find spots.

The potential for the recovery of additional sites found below the tension zone is quite high. A controlled reconnaissance survey would make available data pertaining to land use patterns on the flood plain of the Republican River. Although many of these areas were surveyed in the past, it is possible that numerous small camp sites and lithic scatters were never found. Thus, these sites, in addition to the known sites surrounding Harlan County Lake, would yield invaluable information pertaining to settlement patterns, land use patterns, and the over-all view of the prehistory of Harlan County.

The boundaries of the proposed district would be confined, at this time, to federal property surrounding Harlan County Lake. Although not all of these lands have been intensively surveyed, it is obvious that the known sites are part of a generalized interactive complex with the Republican River. That is, the known sites around the lake, particularly those excavated by the University of Nebraska-Lincoln, exhibit a logical and meaningful focus toward a riverine environment.

However, this is not to suggest that the artificial boundaries of federal property around the lake mark the final boundaries of the district. There are areas both upstream and downstream from the lake which could be included within the district boundaries. At this time, because these lands have not been surveyed, the nomination to the National Register as a district will exclude them. In the future, when intensive testing has been completed, it will be to the discretion of the field archaeologist to expand or not expand the boundaries of the proposed district.

XI. GLOSSARY OF TERMS

ARTIFACT: A material object modified or manufactured by human activity. It serves as the evidence of the activity and is one unit of study in the science of Archaeology.

ARTIFICIAL LEVEL: An arbitrary unit of depth in archaeological subsurface testing - determined independent of natural soil or cultural levels.

AUGER TEST: A subsurface test utilized to determine the presence or absence of artifacts below the surface. Utilizing an auger or post hole digger, units are 7 inches in diameter and can be dug to a depth of eight feet.

BODY SHERD: A broken fragment from the body of a ceramic vessel.

BURIN: An engraving tool.

CERAMICS: Fired clay, pottery.

CORD WRAPPED: A design technique for decorating ceramics where a paddle is wrapped in cordage and pounded against the soft clay before firing, producing a roughened surface.

CULTURE: Depending on context, either learned human behavior or a group of people sharing common learned behaviors - as "a culture".

CULTURAL MATERIAL: Also referred to as artifacts, it is the by-products of human behavior.

CUTBANK PLANING: Utilizing a trowel or hoe, the exposed cutbank is visually examined for artifacts.

FLAKE: A piece of stone which is the result of purposeful efforts by someone manufacturing a stone tool.

FRAGMENT (STONE): A piece of stone of the type utilized by prehistoric peoples in the manufacture of tools. A fragment is not a flake or a tool, but may show evidence of working.

PROJECTILE POINT: The tip of a projected instrument, such as a spear, arrow, or dart.

RIM SHERD: A broken fragment from the rim or edge of a ceramic vessel.

SCRAPER: A tool used by prehistoric peoples for the scraping, cutting, or sawing of wood, hide, bone, or leather.

SCREENING: The process of maximizing artifact recovery from a subsurface test unit. All of the backdirt is processed through

SHOVEL TEST: Another type of subsurface test different from the auger test only in that it is usually square or rectangular and dug with a shovel.

SITE: Referring to an archaeological site, it the location at which one or more artifacts are recovered.

SPOT/TRANSECT SURFACE RECONNAISSANCE: Visual examination of the ground surface utilizing a patterned method of collection. In this case, transects were placed at 25 meter intervals from the waterline to the cutbank. At 5 meter intervals beginning at the waterline, artifacts were collected from the surface from an area of 1 meter in diameter.

STRATIGRAPHY: The natural layering of the soil as a result of different past environmental actions.

SURFACE RECONNAISSANCE: The ground is visually examined at a determined interval and surface manifestations of archaeological sites are noted.

TRANSECT SURFACE RECONNAISSANCE: Differs from the spot/transect method in that artifacts are collected from between the transect lines rather than at given intervals on the transect lines.

WATER-SCREENING: A technique where soil from a subsurface test unit is screened while immersed in water, aiding in the breakdown of clay and similar materials and the subsequent recovery of artifacts.

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Harlan County Lake, North Cove Recreation Area. File Number B-3-2276.

Harlan County Lake, Methodist Cove Recreation Area. File Number B-3-2277.

Harlan County Lake, Pelican Point and Alma Vista Recreation Areas. File Number B-3-2278.

Harlan County Lake, Patterson Harbor Recreation Area. File Number B-3-2279.

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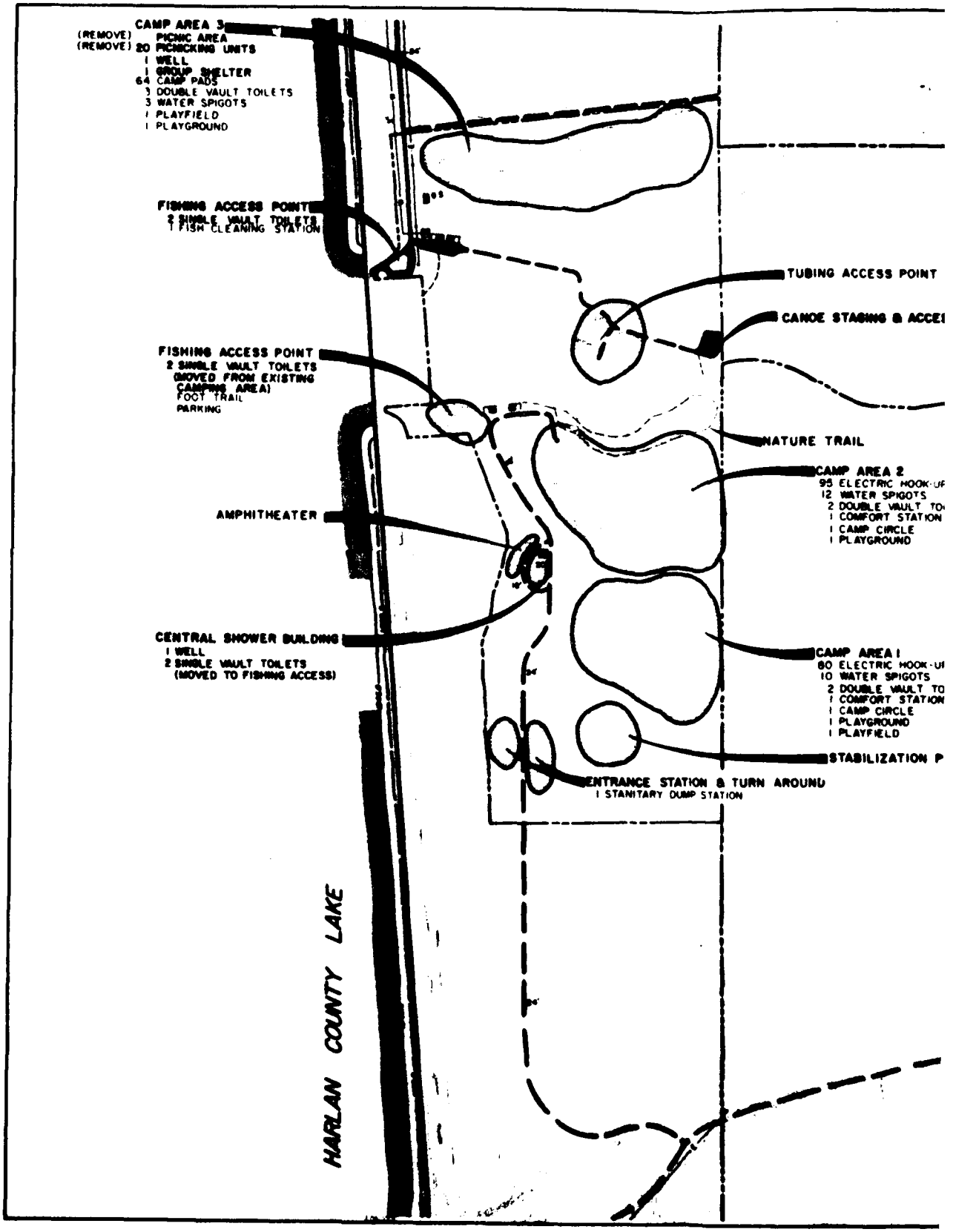
XIII. APPENDICES

APPENDIX A: MASTER PLAN MAPS OF PUBLIC USE AREAS


CAMP AREA 3
(REMOVE) PICNIC AREA
(REMOVE) 20 PICNICKING UNITS
1 WELL
1 GROUP SHELTER
64 CAMP PADS
3 DOUBLE VAULT TOILETS
3 WATER SPIGOTS
1 PLAYFIELD
1 PLAYGROUND
FISHING ACCESS POINT
2 SINGLE VAULT TOILETS
1 FISH CLEANING STATION
TUBING ACCESS POINT
CANOE STAGING & ACCE
FISHING ACCESS POINT
2 SINGLE VAULT TOILETS
(MOVED FROM EXISTING CAMPING AREA)
FOOT TRAIL
PARKING
NATURE TRAIL
CAMP AREA 2
95 ELECTRIC HOOK-UP
12 WATER SPIGOTS
2 DOUBLE VAULT TO
1 COMFORT STATION
1 CAMP CIRCLE
1 PLAYGROUND
AMPHITHEATER
CENTRAL SHOWER BUILDING
1 WELL
2 SINGLE VAULT TOILETS
(MOVED TO FISHING ACCESS)
CAMP AREA 1
80 ELECTRIC HOOK-UP
10 WATER SPIGOTS
2 DOUBLE VAULT TO
1 COMFORT STATION
1 CAMP CIRCLE
1 PLAYGROUND
1 PLAYFIELD
STABILIZATION P
ENTRANCE STATION & TURN AROUND
1 SANITARY DUMP STATION
HARLAN COUNTY LAKE

TUBING ACCESS POINT

CANOE STAGING & ACCESS POINT

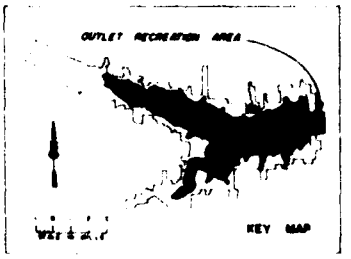
NATURE TRAIL

CAMP AREA 2
95 ELECTRIC HOOK UP CAMP PADS
12 WATER SPIGOTS
2 DOUBLE VAULT TOILETS
1 COMFORT STATION
1 CAMP CIRCLE
1 PLAYGROUND

CAMP AREA 1
80 ELECTRIC HOOK UP CAMP PADS
10 WATER SPIGOTS
2 DOUBLE VAULT TOILETS
1 COMFORT STATION
1 CAMP CIRCLE
1 PLAYGROUND
PLAYFIELD

STABILIZATION POND

TURN AROUND



LEGEND
EXISTING FACILITIES

Lake Pool, Elev (M S L)
Multipurpose Pool
Flood Control Pool
Wooded Area
Roads
Federal, State and County Route Markers
Improved
Government Property Line
Public Use Area Boundary

PUBLIC USE AREA FACILITIES

Existing / Future

Interior Roads Paved
Interior Roads Gravel
Parking Areas
Paved
Gravel
Water System
Water Spigot
Distr System
Electrical Lines
Underground
Overhead
Sanitary Facilities
Sewage Lift Station
Well House
Single Vault Toilet
Double Vault Toilet
Water Borne Toilet
Shower Latrine
Shower Building
Comfort Station
Washhouse
Sanitary Dump Station
Stabilization Pond
Sewer Lines
Force Main
Water Treatment Plant
Group Shelters
Individual Shelters
Camping Units
Courtesy Docks
Fishing Docks
Swimming Beach
Swimming Dock
Change House
Entrance Station
Trails
Nature Unpaved
Hiking
Equestrian

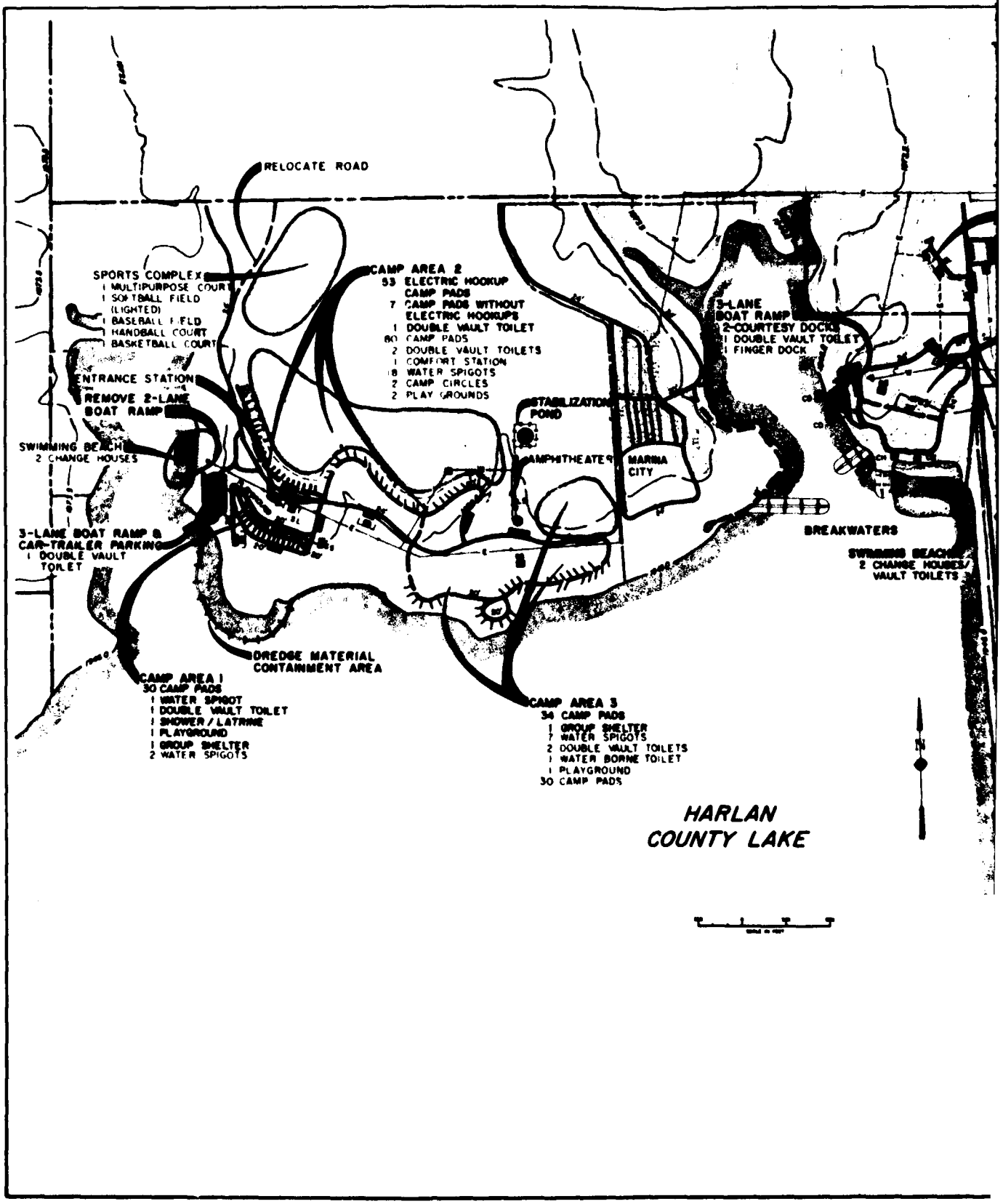
REPUBLICAN RIVER, NEBRASKA

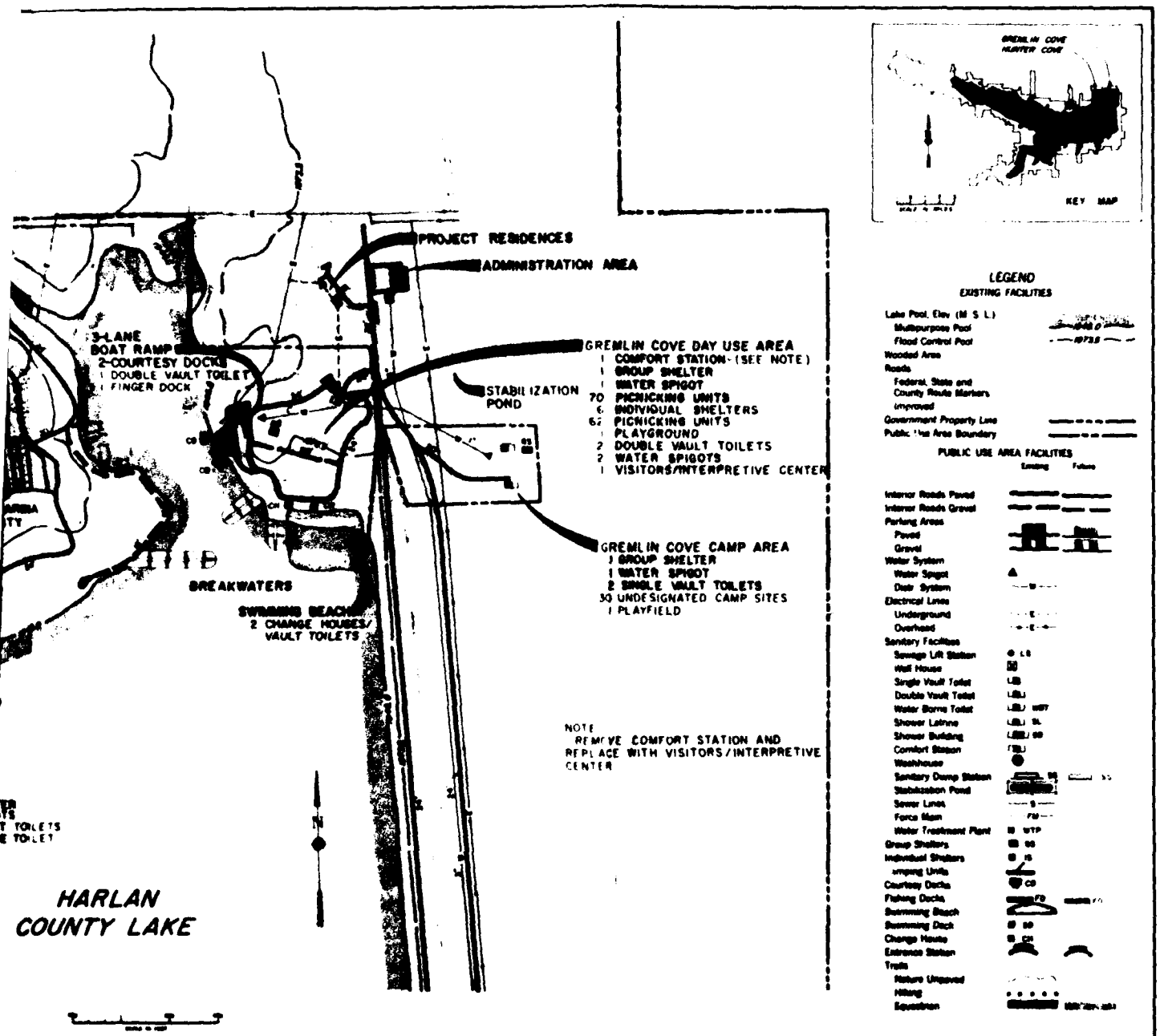
HARLAN COUNTY LAKE

MASTER PLAN

APPENDIX A-1: OUTLET RECREATION AREA

7


RELOCATE ROAD
SPORTS COMPLEX
1 MULTIPURPOSE COURT
1 SOFTBALL FIELD (LIGHTED)
1 BASEBALL FIELD
1 HANDBALL COURT
1 BASKETBALL COURT
ENTRANCE STATION
REMOVE 2-LANE BOAT RAMP
SWIMMING BEACH
2 CHANGE HOUSES
3-LANE BOAT RAMP & CAR-TRAILER PARKING
1 DOUBLE VAULT TOILET
CAMP AREA 2
93 ELECTRIC HOOKUP CAMP PADS
7 CAMP PADS WITHOUT ELECTRIC HOOKUPS
1 DOUBLE VAULT TOILET
80 CAMP PADS
2 DOUBLE VAULT TOILETS
1 COMFORT STATION
8 WATER SPIGOTS
2 CAMP CIRCLES
2 PLAY GROUNDS
STABILIZATION POND
AMPHITHEATER
MARINA CITY
3-LANE BOAT RAMP
2-COURTESY DOCKS
1 DOUBLE VAULT TOILET
1 FINGER DOCK
BREAKWATERS
SWIMMING BEACH
2 CHANGE HOUSES/ VAULT TOILETS
DREDGE MATERIAL CONTAINMENT AREA
CAMP AREA 1
30 CAMP PADS
1 WATER SPIGOT
1 DOUBLE VAULT TOILET
1 SHOWER / LATRINE
1 PLAYGROUND
1 GROUP SHELTER
2 WATER SPIGOTS
CAMP AREA 3
34 CAMP PADS
1 GROUP SHELTER
7 WATER SPIGOTS
2 DOUBLE VAULT TOILETS
1 WATER BORNE TOILET
1 PLAYGROUND
30 CAMP PADS
HARLAN COUNTY LAKE



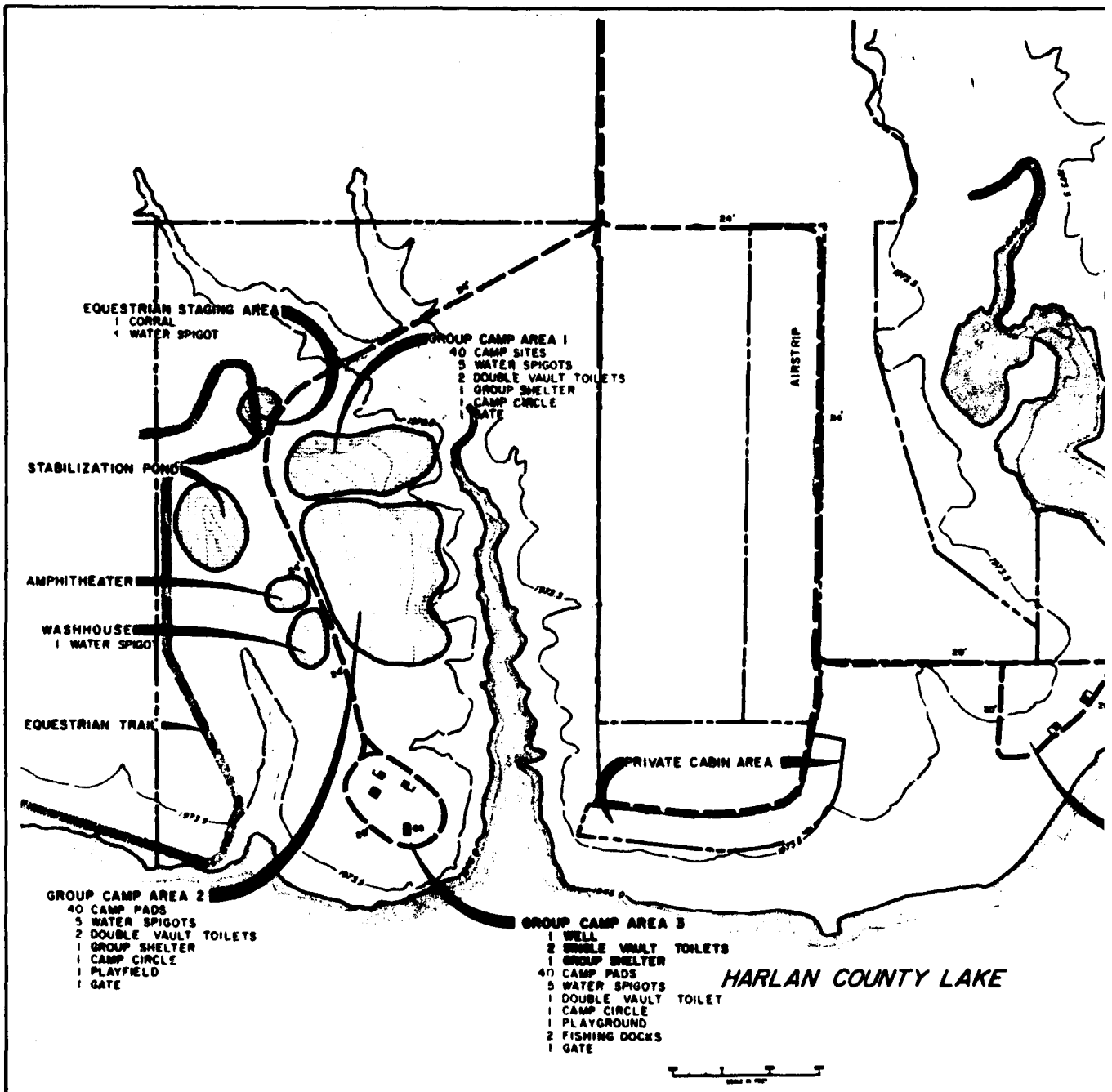
REPUBLICAN RIVER, NEBRASKA

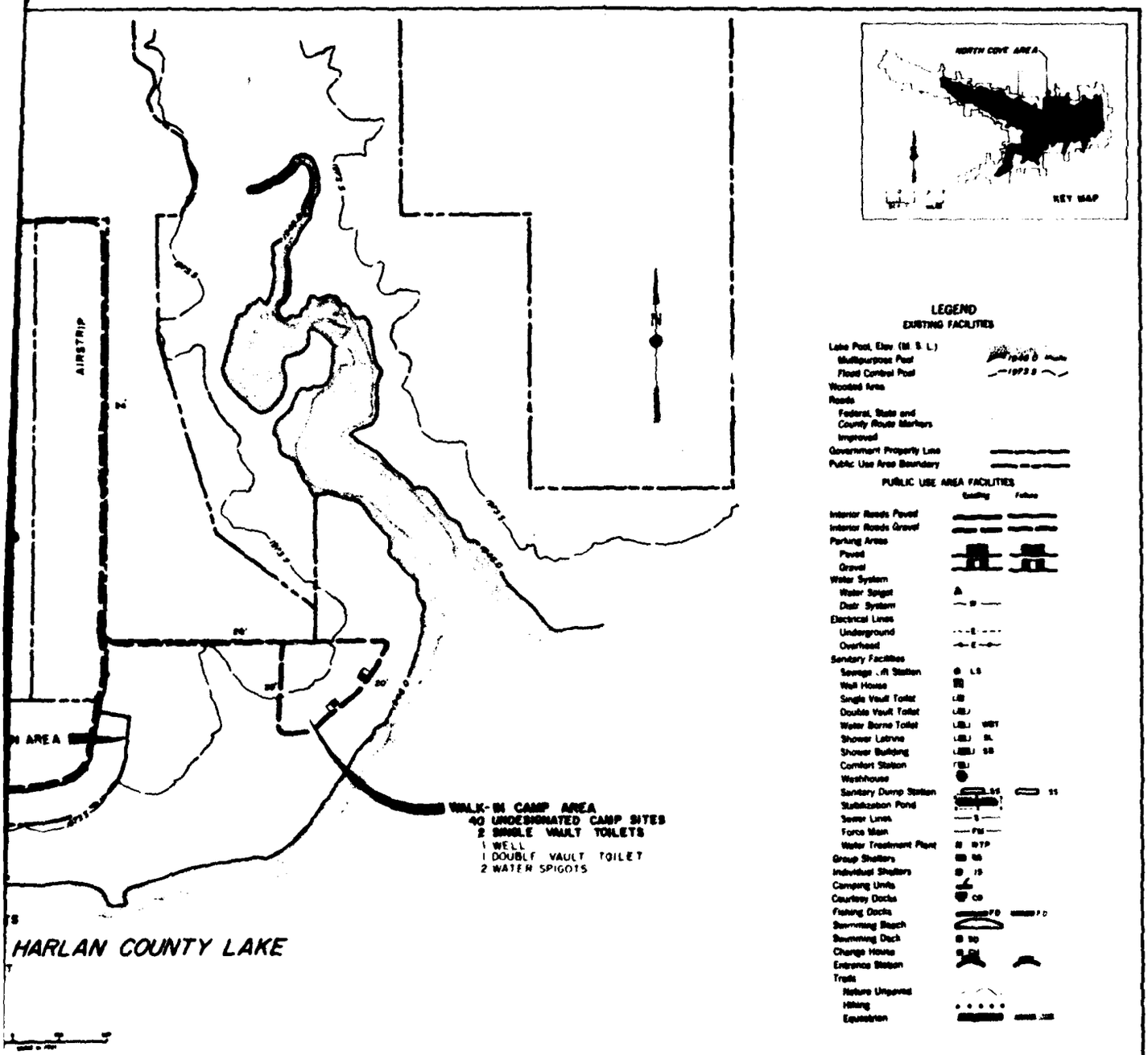
HARLAN COUNTY LAKE

MASTER PLAN

APPENDIX A-2: GREMLIN COVE AND HUNTER COVE RECREATION AREAS

Sheet No. 1


EQUESTRIAN STAGING AREA
1 CORRAL
1 WATER SPIGOT
GROUP CAMP AREA 1
40 CAMP SITES
5 WATER SPIGOTS
2 DOUBLE VAULT TOILETS
1 GROUP SHELTER
1 CAMP CIRCLE
1 GATE
AIRSTRIP
STABILIZATION POND
AMPHITHEATER
WASHHOUSE
1 WATER SPIGOT
EQUESTRIAN TRAIL
PRIVATE CABIN AREA
GROUP CAMP AREA 2
40 CAMP PADS
5 WATER SPIGOTS
2 DOUBLE VAULT TOILETS
1 GROUP SHELTER
1 CAMP CIRCLE
1 PLAYFIELD
1 GATE
GROUP CAMP AREA 3
1 WELL
2 DOUBLE VAULT TOILETS
1 GROUP SHELTER
40 CAMP PADS
5 WATER SPIGOTS
1 DOUBLE VAULT TOILET
1 CAMP CIRCLE
1 PLAYGROUND
2 FISHING DOCKS
1 GATE
HARLAN COUNTY LAKE



LEGEND
EXISTING FACILITIES

Lake Pool, Elev (M. S. L.)
Multipurpose Pool
Flood Control Pool
Wooded Area
Roads
Federal, State and County Route Markers
Improved
Government Property Line
Public Use Area Boundary

PUBLIC USE AREA FACILITIES

Existing / Future

Interior Roads Paved
Interior Roads Gravel
Parking Areas
Paved
Gravel
Water System
Water Spigot
Distr. System
Electrical Lines
Underground
Overhead
Sanitary Facilities
Sewage Lift Station
Well House
Single Vault Toilet
Double Vault Toilet
Water Borne Toilet
Shower Latrine
Shower Building
Comfort Station
Washhouse
Sanitary Dump Station
Stabilization Pond
Sewer Lines
Force Main
Water Treatment Plant
Group Shelters
Individual Shelters
Camping Units
Courtesy Docks
Fishing Docks
Swimming Beach
Swimming Dock
Change House
Entrance Station
Trails
Nature Unpaved
Hiking
Equestrian

DESCRIPTION / REVISIONS — DATE — APPD

REPUBLICAN RIVER, NEBRASKA

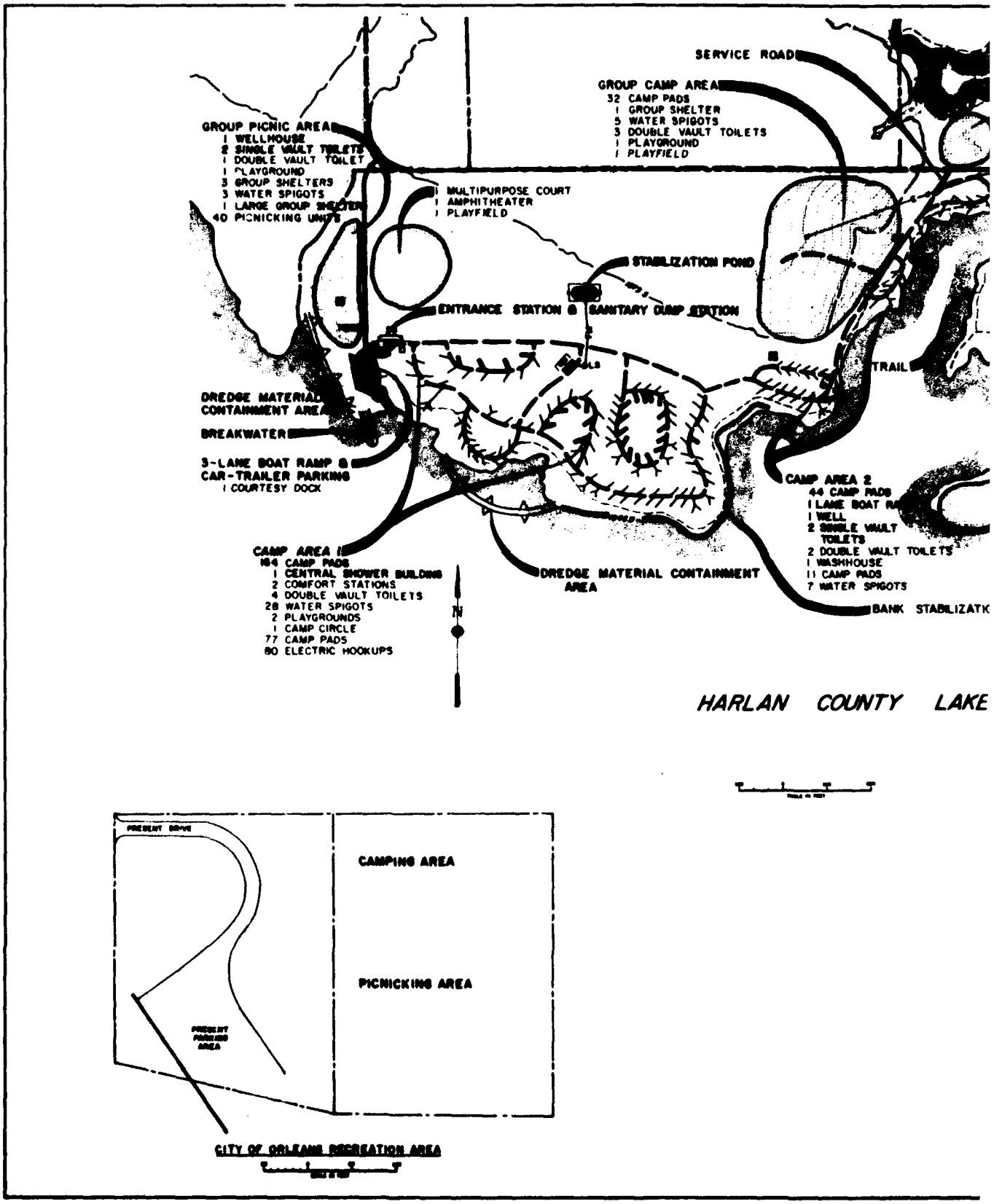
HARLAN COUNTY LAKE

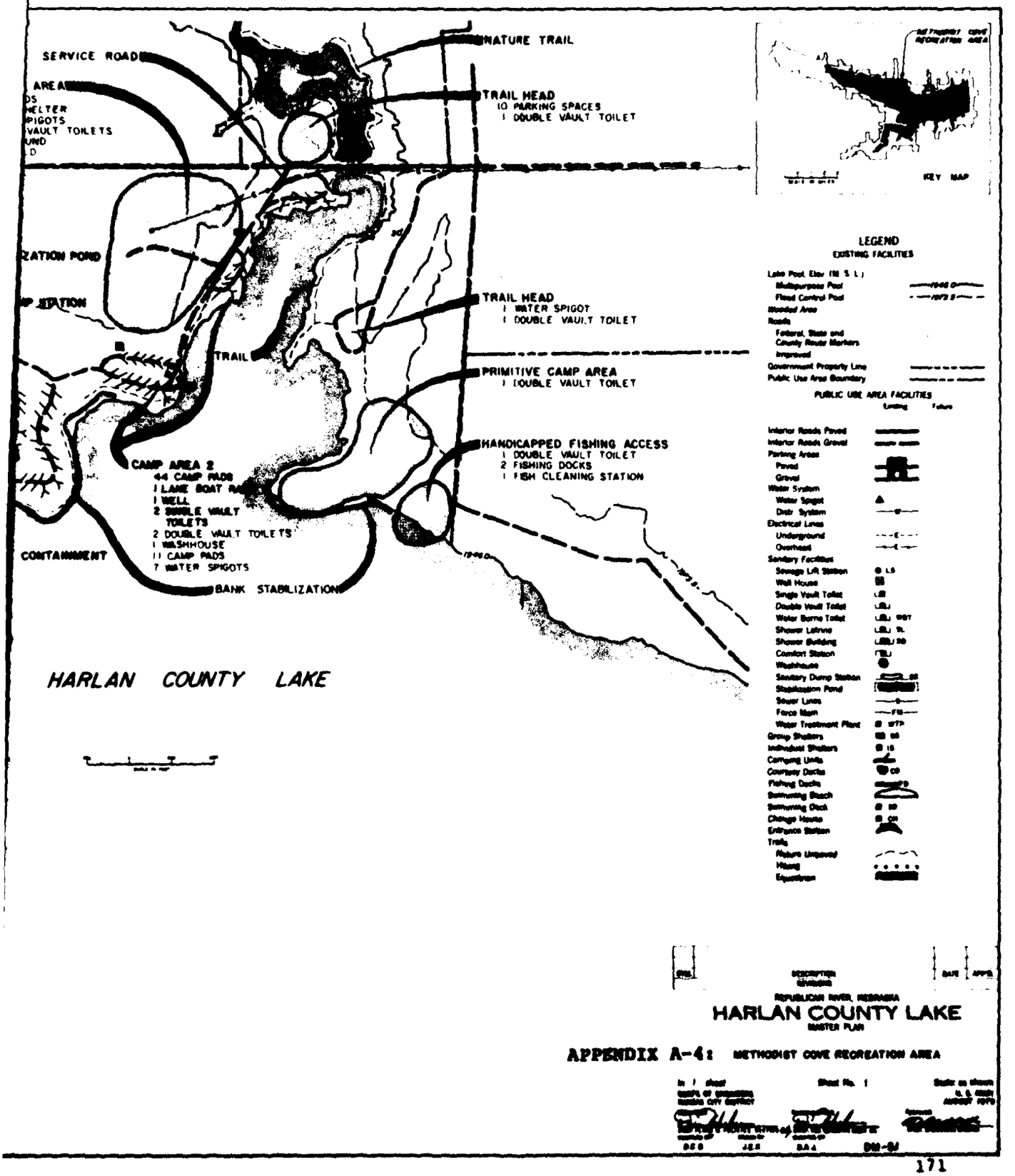
MASTER PLAN

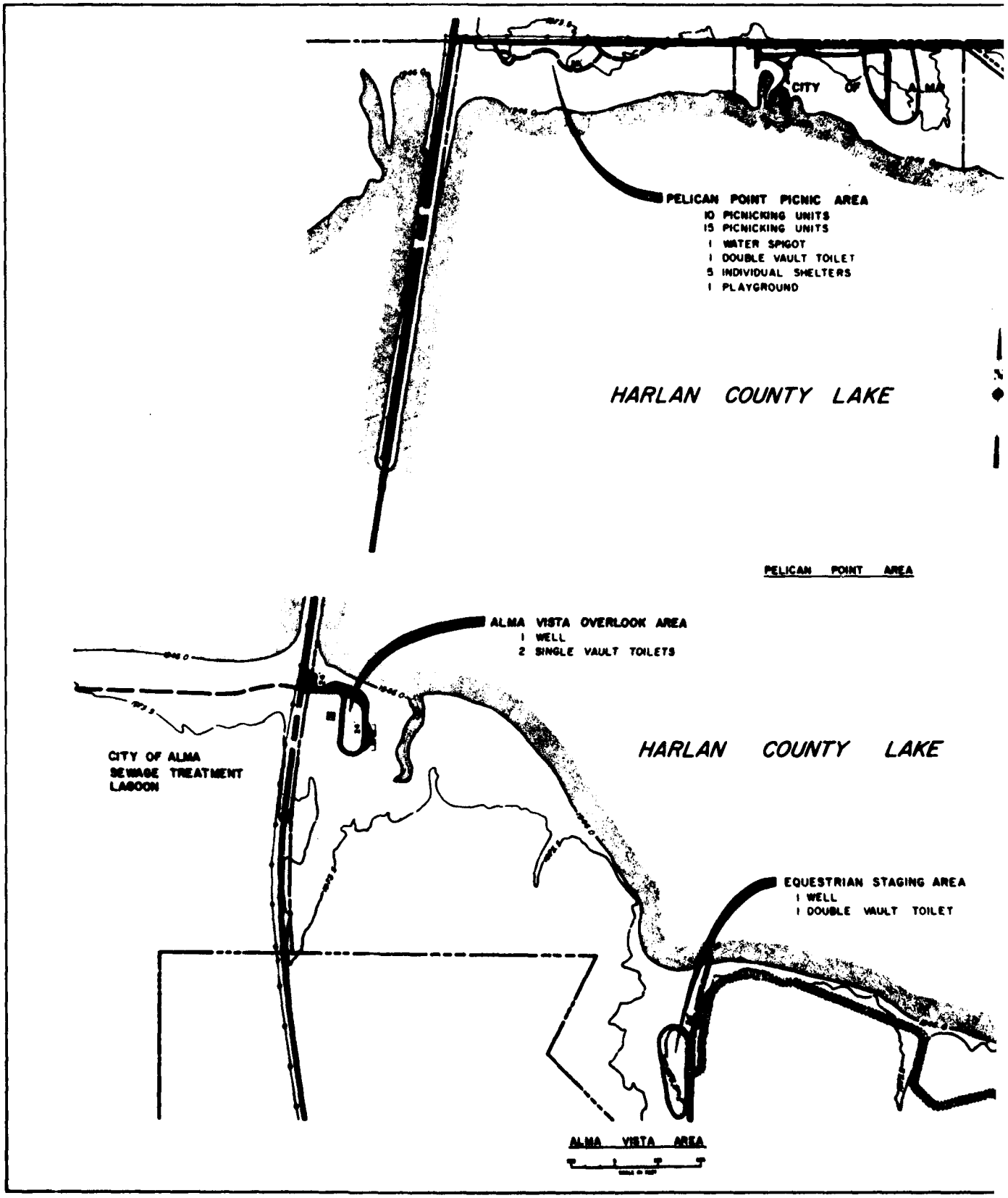
APPENDIX A-3: NORTH COVE RECREATION AREA

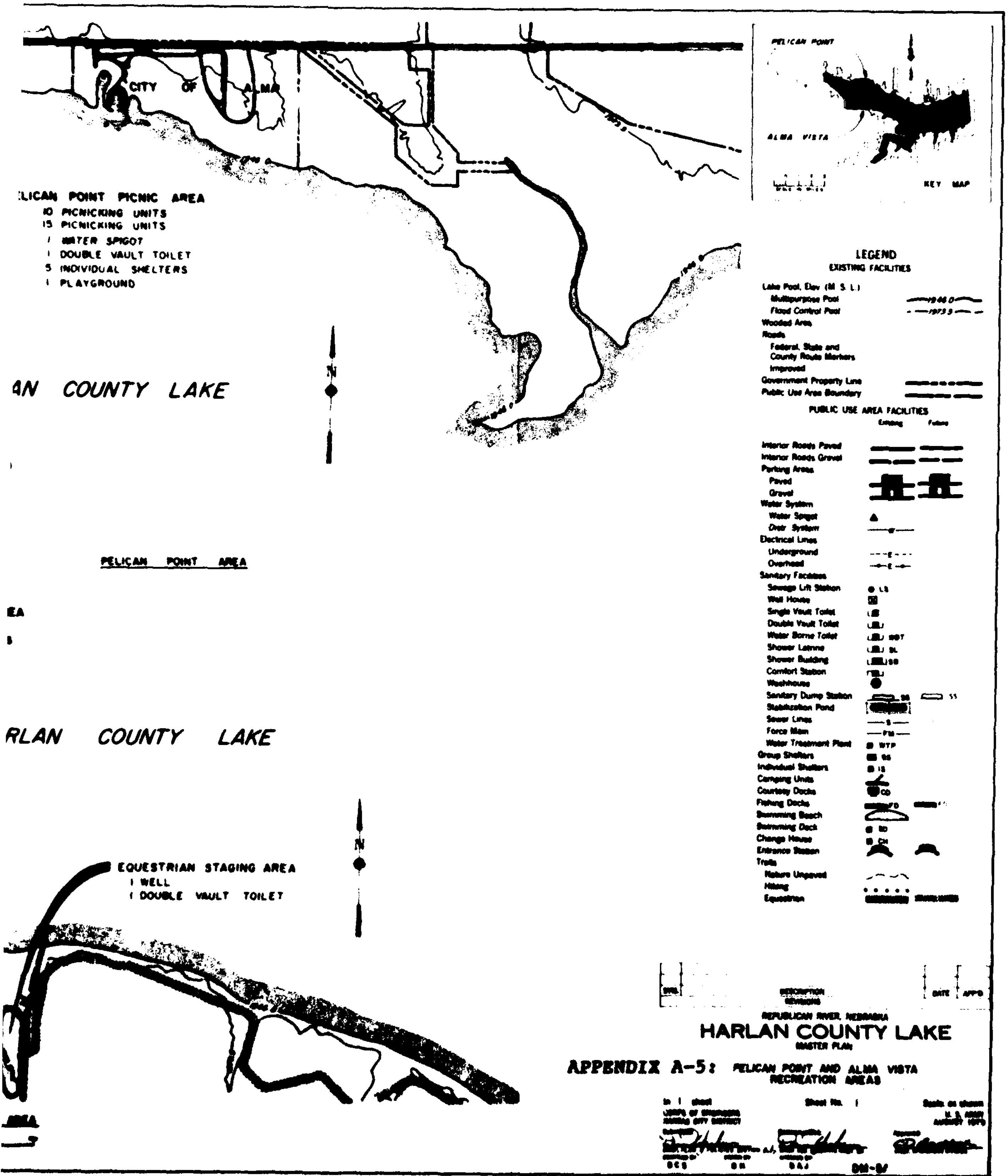
Sheet No. 1

DWG-8

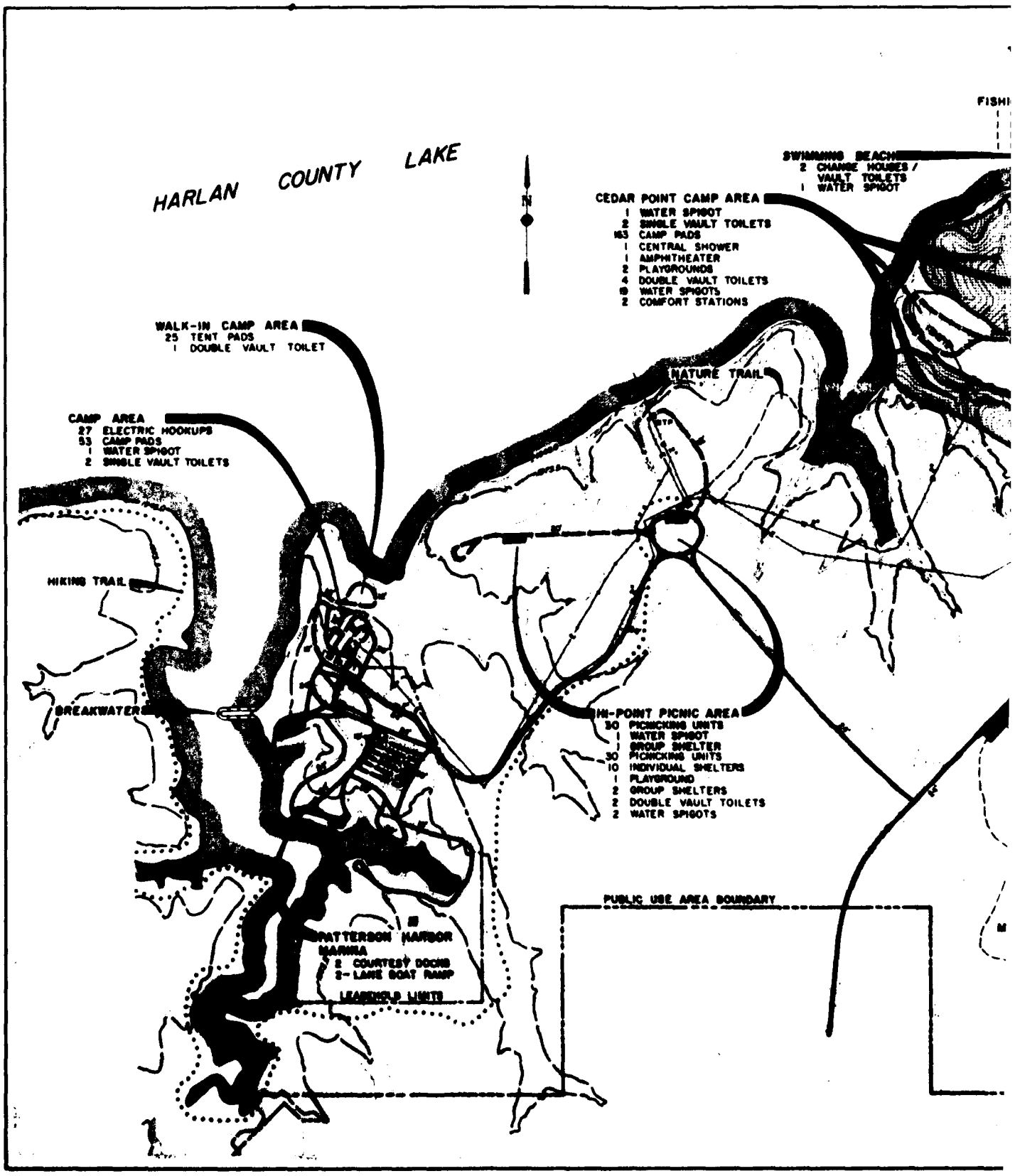

SERVICE ROAD
GROUP CAMP AREA
32 CAMP PADS
1 GROUP SHELTER
5 WATER SPIGOTS
3 DOUBLE VAULT TOILETS
1 PLAYGROUND
1 PLAYFIELD
GROUP PICNIC AREA
1 WELLHOUSE
2 SINGLE VAULT TOILETS
1 DOUBLE VAULT TOILET
1 PLAYGROUND
3 GROUP SHELTERS
3 WATER SPIGOTS
1 LARGE GROUP SHELTER
40 PICNICKING UNITS
1 MULTIPURPOSE COURT
1 AMPHITHEATER
1 PLAYFIELD
STABILIZATION POND
ENTRANCE STATION & SANITARY DUMP STATION
TRAIL
DREDGE MATERIAL CONTAINMENT AREA
BREAKWATER
3-LANE BOAT RAMP & CAR-TRAILER PARKING
1 COURTESY DOCK
CAMP AREA 2
44 CAMP PADS
1 LANE BOAT RA
1 WELL
2 SINGLE VAULT TOILETS
2 DOUBLE VAULT TOILETS
1 WASHHOUSE
11 CAMP PADS
7 WATER SPIGOTS
CAMP AREA 1
164 CAMP PADS
1 CENTRAL SHOWER BUILDING
2 COMFORT STATIONS
4 DOUBLE VAULT TOILETS
28 WATER SPIGOTS
2 PLAYGROUNDS
1 CAMP CIRCLE
77 CAMP PADS
80 ELECTRIC HOOKUPS
DREDGE MATERIAL CONTAINMENT AREA
BANK STABILIZATI
N
HARLAN COUNTY LAKE
PRESENT DRIVE
CAMPING AREA
PICNICKING AREA
PRESENT PARKING AREA
CITY OF ORLEANS RECREATION AREA

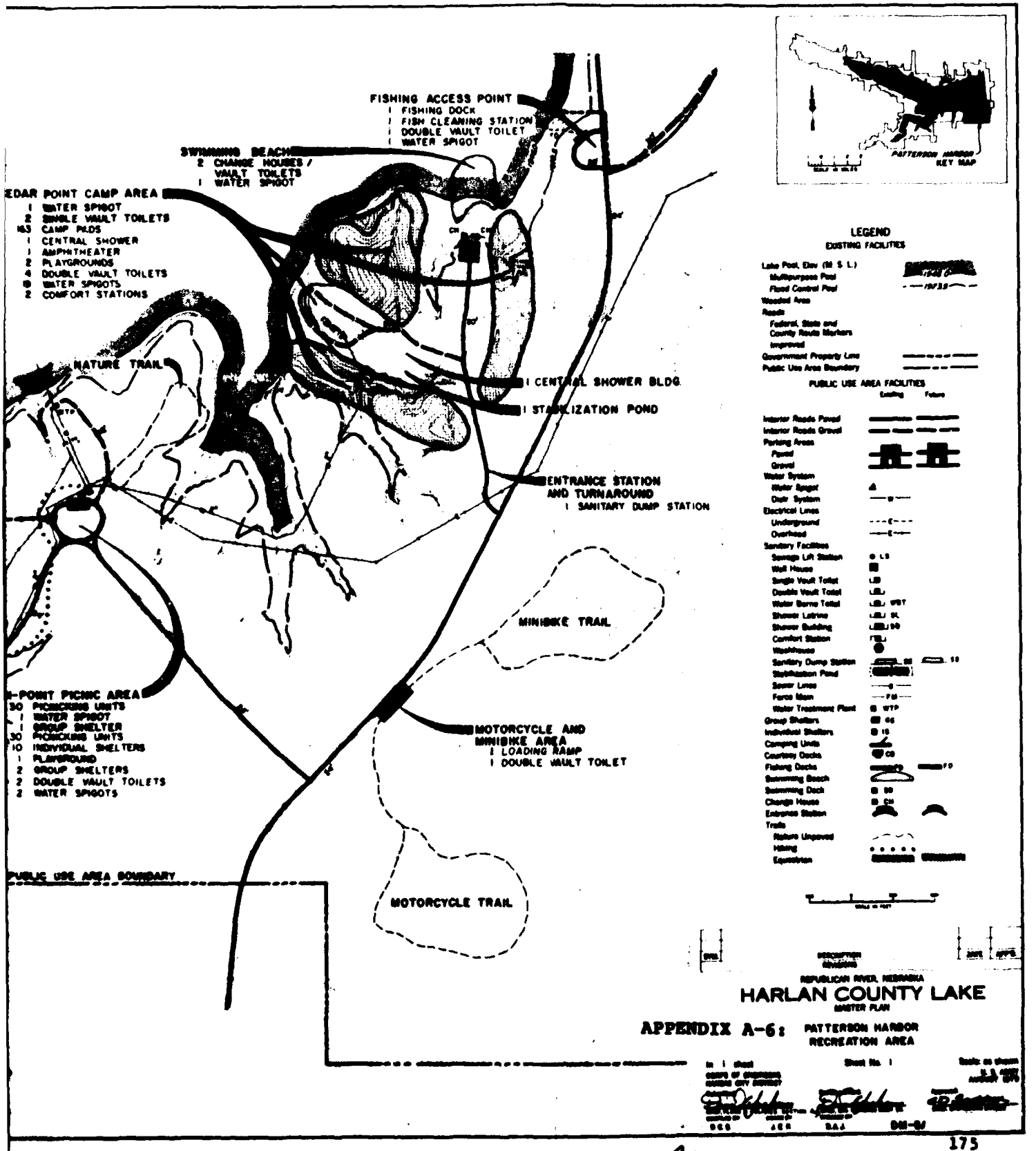

NATURE TRAIL
SERVICE ROAD
TRAIL HEAD
10 PARKING SPACES
1 DOUBLE VAULT TOILET
TRAIL HEAD
1 WATER SPIGOT
1 DOUBLE VAULT TOILET
TRAIL
PRIMITIVE CAMP AREA
1 DOUBLE VAULT TOILET
HANDICAPPED FISHING ACCESS
1 DOUBLE VAULT TOILET
2 FISHING DOCKS
1 FISH CLEANING STATION
CAMP AREA 2
44 CAMP PADS
1 LANE BOAT RA
1 WELL
2 SINGLE VAULT TOILETS
2 DOUBLE VAULT TOILETS
1 WASHHOUSE
11 CAMP PADS
7 WATER SPIGOTS
CONTAINMENT
BANK STABILIZATION
HARLAN COUNTY LAKE
KEY MAP
LEGEND
EXISTING FACILITIES
PUBLIC USE AREA FACILITIES
REPUBLICAN RIVER, NEBRASKA
HARLAN COUNTY LAKE
MASTER PLAN
APPENDIX A-4: METHODIST COVE RECREATION AREA


CITY OF ALMA
PELICAN POINT PICNIC AREA
10 PICNICKING UNITS
15 PICNICKING UNITS
1 WATER SPIGOT
1 DOUBLE VAULT TOILET
5 INDIVIDUAL SHELTERS
1 PLAYGROUND
HARLAN COUNTY LAKE
PELICAN POINT AREA
ALMA VISTA OVERLOOK AREA
1 WELL
2 SINGLE VAULT TOILETS
CITY OF ALMA
SEWAGE TREATMENT
LAGOON
HARLAN COUNTY LAKE
EQUESTRIAN STAGING AREA
1 WELL
1 DOUBLE VAULT TOILET
ALMA VISTA AREA

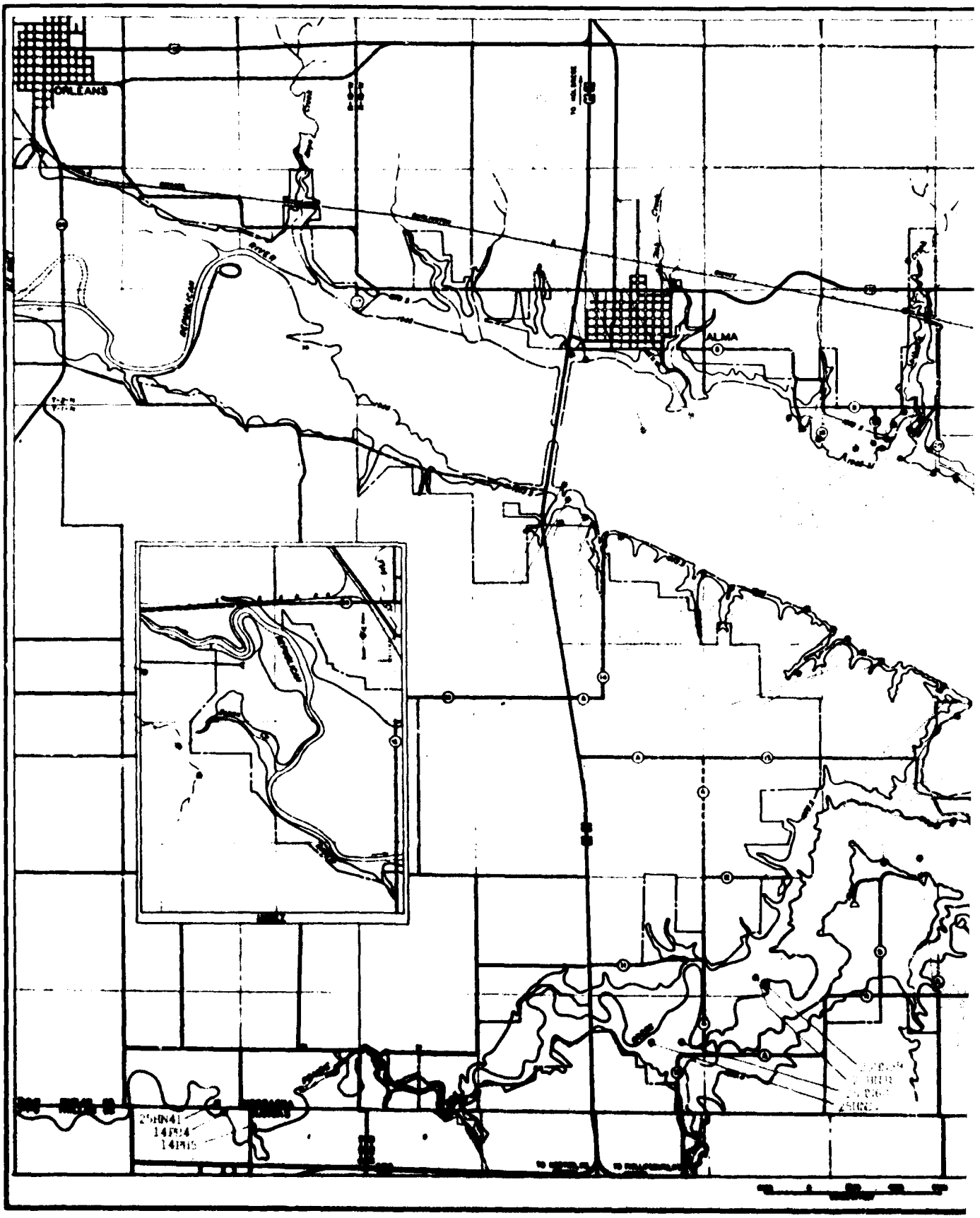

CITY OF ALMA
PELICAN POINT
ALMA VISTA
KEY MAP
LICAN POINT PICNIC AREA
10 PICNICKING UNITS
15 PICNICKING UNITS
1 WATER SPIGOT
1 DOUBLE VAULT TOILET
5 INDIVIDUAL SHELTERS
1 PLAYGROUND
AN COUNTY LAKE
PELICAN POINT AREA
RLAN COUNTY LAKE
EQUESTRIAN STAGING AREA
1 WELL
1 DOUBLE VAULT TOILET
LEGEND
EXISTING FACILITIES
Lake Pool, Elev (M S L)
Multipurpose Pool
Flood Control Pool
Wooded Area
Roads
Federal, State and County Route Markers
Improved
Government Property Line
Public Use Area Boundary
PUBLIC USE AREA FACILITIES
Interior Roads Paved
Interior Roads Gravel
Parking Areas
Paved
Gravel
Water System
Water Spigot
Distr System
Electrical Lines
Underground
Overhead
Sanitary Facilities
Sewage Lift Station
Well House
Single Vault Toilet
Double Vault Toilet
Water Borne Toilet
Shower Latrine
Shower Building
Comfort Station
Washhouse
Sanitary Dump Station
Stabilization Pond
Sewer Lines
Force Main
Water Treatment Plant
Group Shelters
Individual Shelters
Camping Units
Courtesy Docks
Fishing Docks
Swimming Beach
Swimming Dock
Change House
Entrance Station
Trails
Nature Unpaved
Hiking
Equestrian
DESCRIPTION
REVISIONS
DATE
APP'D
REPUBLICAN RIVER, NEBRASKA
HARLAN COUNTY LAKE
MASTER PLAN
APPENDIX A-5: PELICAN POINT AND ALMA VISTA RECREATION AREAS
Sheet No. 1
DM-9

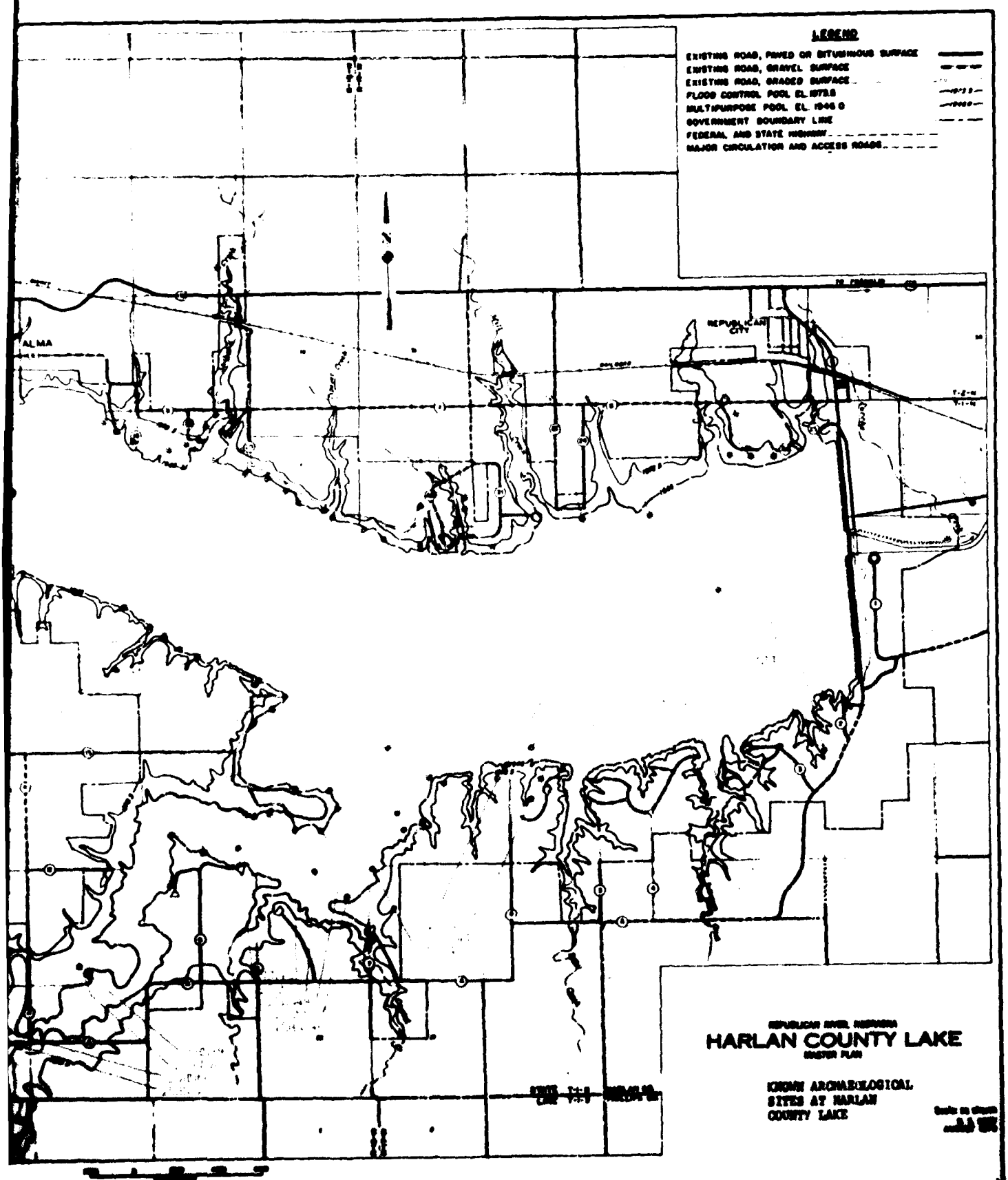
2


HARLAN COUNTY LAKE
N
SWIMMING BEACH
2 CHANGE HOUSES / VAULT TOILETS
1 WATER SPIGOT
CEDAR POINT CAMP AREA
1 WATER SPIGOT
2 SINGLE VAULT TOILETS
163 CAMP PADS
1 CENTRAL SHOWER
1 AMPHITHEATER
2 PLAYGROUNDS
4 DOUBLE VAULT TOILETS
19 WATER SPIGOTS
2 COMFORT STATIONS
WALK-IN CAMP AREA
25 TENT PADS
1 DOUBLE VAULT TOILET
NATURE TRAIL
CAMP AREA
27 ELECTRIC HOOKUPS
53 CAMP PADS
1 WATER SPIGOT
2 SINGLE VAULT TOILETS
HIKING TRAIL
BREAKWATERS
HI-POINT PICNIC AREA
30 PICNICKING UNITS
1 WATER SPIGOT
1 GROUP SHELTER
30 PICNICKING UNITS
10 INDIVIDUAL SHELTERS
1 PLAYGROUND
2 GROUP SHELTERS
2 DOUBLE VAULT TOILETS
2 WATER SPIGOTS
PUBLIC USE AREA BOUNDARY
PATTERSON HARBOR MARINA
2 COURTESY DOCKS
2- LAKE BOAT RAMP
LEASEHOLD LIMITS


FISHING ACCESS POINT
1 FISHING DOCK
1 FISH CLEANING STATION
1 DOUBLE VAULT TOILET
1 WATER SPIGOT
SWIMMING BEACH
2 CHANGE HOUSES /
VAULT TOILETS
1 WATER SPIGOT
EDAR POINT CAMP AREA
1 WATER SPIGOT
2 DOUBLE VAULT TOILETS
163 CAMP PADS
1 CENTRAL SHOWER
1 AMPHITHEATER
2 PLAYGROUNDS
4 DOUBLE VAULT TOILETS
8 WATER SPIGOTS
2 COMFORT STATIONS
NATURE TRAIL
1 CENTRAL SHOWER BLDG.
1 STABILIZATION POND
ENTRANCE STATION
AND TURNAROUND
1 SANITARY DUMP STATION
MINIBIKE TRAIL
-POINT PICNIC AREA
30 PICNICKING UNITS
1 WATER SPIGOT
1 GROUP SHELTER
30 PICNICKING UNITS
10 INDIVIDUAL SHELTERS
1 PLAYGROUND
2 GROUP SHELTERS
2 DOUBLE VAULT TOILETS
2 WATER SPIGOTS
MOTORCYCLE AND
MINIBIKE AREA
1 LOADING RAMP
1 DOUBLE VAULT TOILET
PUBLIC USE AREA BOUNDARY
MOTORCYCLE TRAIL
PATTERSON HARBOR
KEY MAP
LEGEND
EXISTING FACILITIES
Lake Pool, Elev. (M. S. L.)
Multipurpose Pool
Flood Control Pool
Wooded Area
Roads
Federal, State and
County Route Markers
Improved
Government Property Line
Public Use Area Boundary
PUBLIC USE AREA FACILITIES
Existing
Future
Interior Roads Paved
Interior Roads Gravel
Parking Areas
Paved
Gravel
Water System
Water Spigot
Distr. System
Electrical Lines
Underground
Overhead
Sanitary Facilities
Sewage Lift Station
Well House
Single Vault Toilet
Double Vault Toilet
Water Borne Toilet
Shower Latrine
Shower Building
Comfort Station
Washhouse
Sanitary Dump Station
Stabilization Pond
Sewer Lines
Force Main
Water Treatment Plant
Group Shelters
Individual Shelters
Camping Units
Courtesy Docks
Fishing Docks
Swimming Beach
Swimming Dock
Change House
Entrance Station
Trails
Nature Unpaved
Hiking
Equestrian
REPUBLICAN RIVER, NEBRASKA
HARLAN COUNTY LAKE
MASTER PLAN
APPENDIX A-6: PATTERSON HARBOR
RECREATION AREA
Sheet No. 1
DAE-84

APPENDIX B: MAP OF ALL KNOWN ARCHAEOLOGICAL SITES WITHIN HARLAN COUNTY DISTRICT

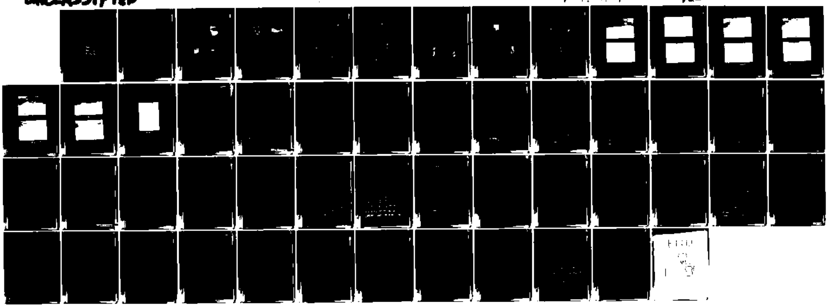

ORLEANS
ALMA

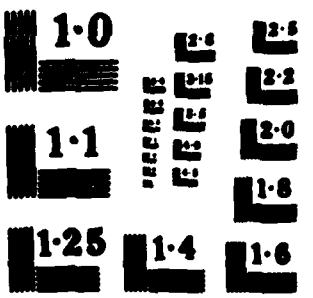

LEGEND
EXISTING ROAD, PAVED OR BITUMINOUS SURFACE
EXISTING ROAD, GRAVEL SURFACE
EXISTING ROAD, GRADED SURFACE
FLOOD CONTROL POOL EL. 1973.8
MULTIPURPOSE POOL EL. 1946.0
GOVERNMENT BOUNDARY LINE
FEDERAL AND STATE HIGHWAY
MAJOR CIRCULATION AND ACCESS ROADS
N
ALMA
REPUBLICAN CITY
REPUBLICAN RIVER, NEBRASKA
HARLAN COUNTY LAKE
MASTER PLAN
KNOWN ARCHAEOLOGICAL SITES AT HARLAN COUNTY LAKE

AD-A148 556 HARLAN COUNTY LAKE NEBRASKA, INTENSIVE ARCHEOLOGICAL SURVEY AND SITE TEST (U) IMPACT SERVICES INC MANKATO MN F 2 ROETZEL ET AL SEP 82 DACW41 79 C 0074

3/3

UNCLASSIFIED F/G 5/6 NL

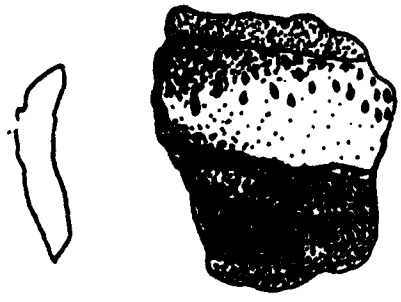



1·0
1·1
1·25
1·4
1·6
1·8
2·0
2·2
2·5

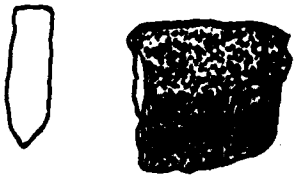
APPENDIX C: PLATES

PLATE 1: ARTIFACTS FROM 25HN11, 25HN31, AND 25HN53

25HN11-6277 Projectile Point



25HN31-87 Rim Sherd

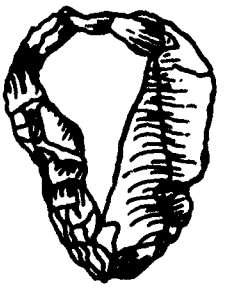


25HN31-88 Rim Sherd

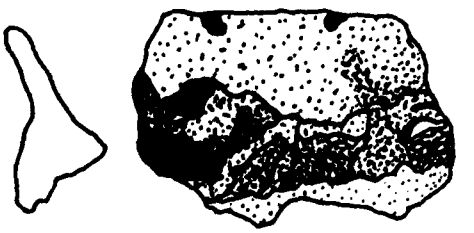
25HN53-41 Base of Projectile

SCALE: ARTIFACTS ARE ACTUAL SIZE

PLATE 2: ARTIFACTS FROM 25HN53, 25HN55, 25HN57, AND 25HN58



25HN53-42 Utilized Scraper



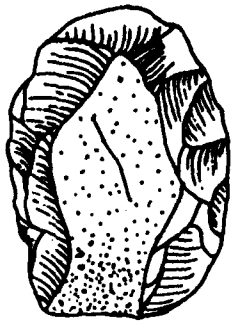
25HN55-67 Scalloped Rim Sherd

25HN58-97 Triangular Projectile Point

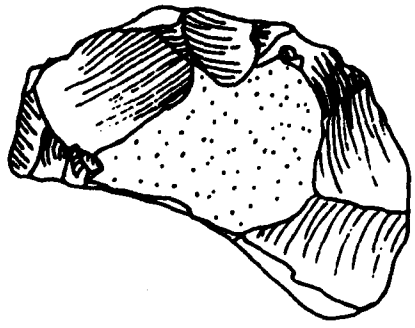
25HN57-196 Projectile Point, Fluted

SCALE: ARTIFACTS ARE ACTUAL SIZE

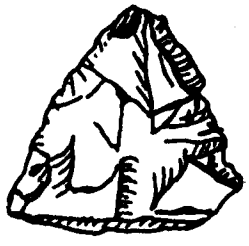
PLATE 3: ARTIFACTS FROM 25HN59, 25HN110, 25HN111, AND 25HN112



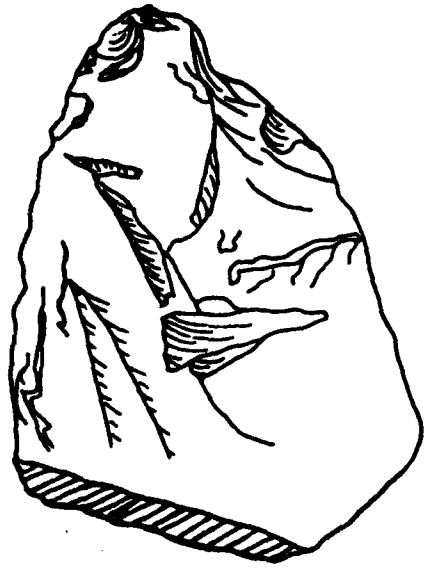
25HN59-41 Utilized Scraper



25HN110-17 Side Scraper



25HN111-4 Projectile Point Tip



25HN112-69 Broken Knife

SCALE: ARTIFACTS ARE ACTUAL SIZE

PLATE 4: ARTIFACTS FROM 25HN112, 25HN124, 25HN127, AND 25HN130

25HN122-50 Base of Projectile Point

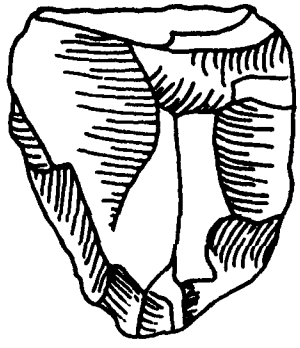
25HN124-12 Broken Knife

25HN127-8 Projectile Point

25HN130-10 Base of Projectile Point

SCALE: ARTIFACTS ARE ACTUAL SIZE

PLATE 5: ARTIFACTS FROM 25HN133 AND 25HN135



25HN133-6 Utilized Flake

25HN135-706 Midsection of Projectile Point

25HN135-707 Utilized Scraper

25HN135-708 Broken Projectile

SCALE: ARTIFACTS ARE ACTUAL SIZE

PLATE 6: ARTIFACTS FROM 25HN137, 25HN140, 25HN145, AND 25HN146

25HN140-10 Rim Sherd

25HN137-37 Projectile Point

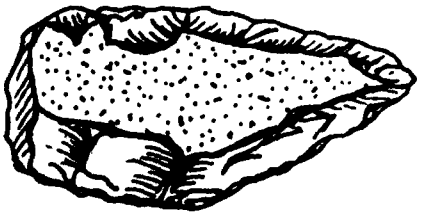
25HN145-12 Projectile Point

25HN146-13 Turtleback Scraper

SCALE: ARTIFACTS ARE ACTUAL SIZE

PLATE 7: ARTIFACTS FROM 25HN146, 25HN148, AND 25HN173

25HN146-18 Projectile Point



25HN148-6 Fluted Knife

25HN173-1 Broken Projectile Point

SCALE: ARTIFACTS ARE ACTUAL SIZE

PLATE 8: MUDFLAT SOUTH OF ALMA

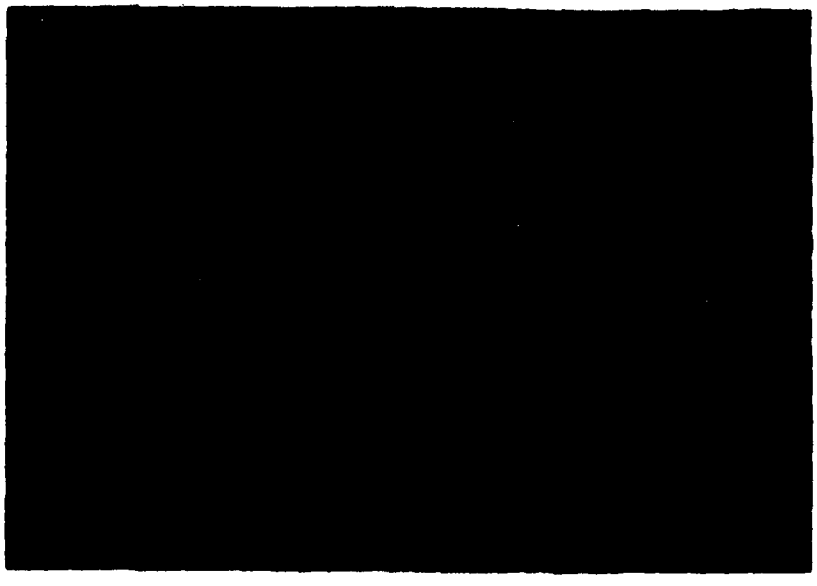


PLATE 9: EROSION OF CUTBANK AT 25MM11

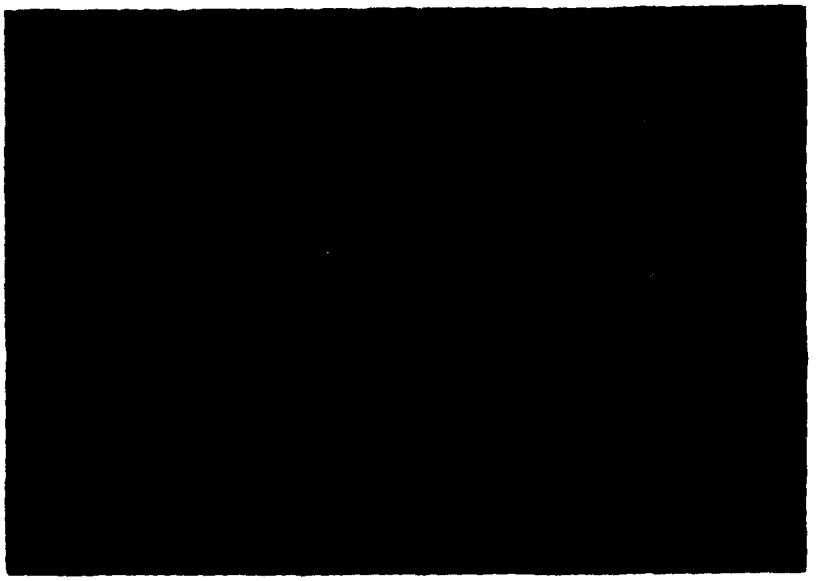


PLATE 10: LITHIC DEBRIS FROM 25HN11
(Photo was taken in 1979. When the site was revisited in 1980, the beach was void of cultural material).

PLATE 11: SHOVEL TESTING ON 25HN32

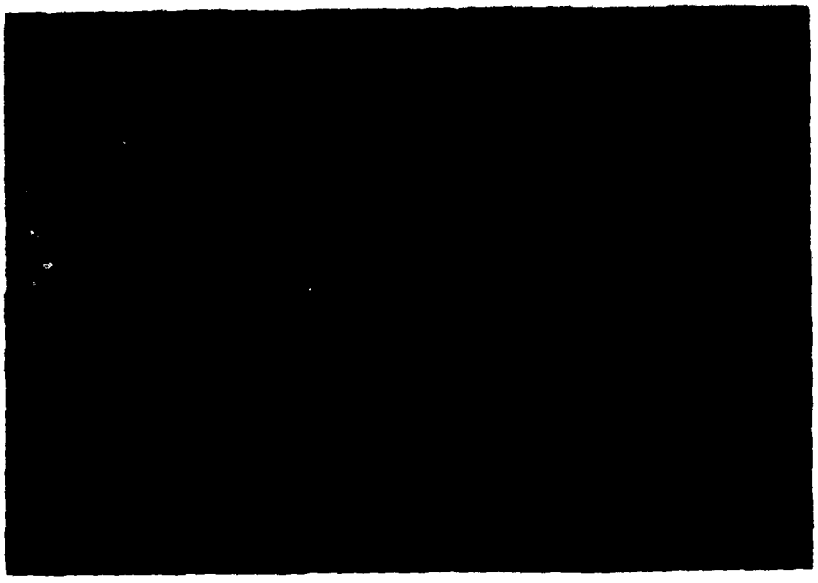


PLATE 12: NORTH SHORE OF SIREN POINT
LOOKING EAST/SOUTHEAST

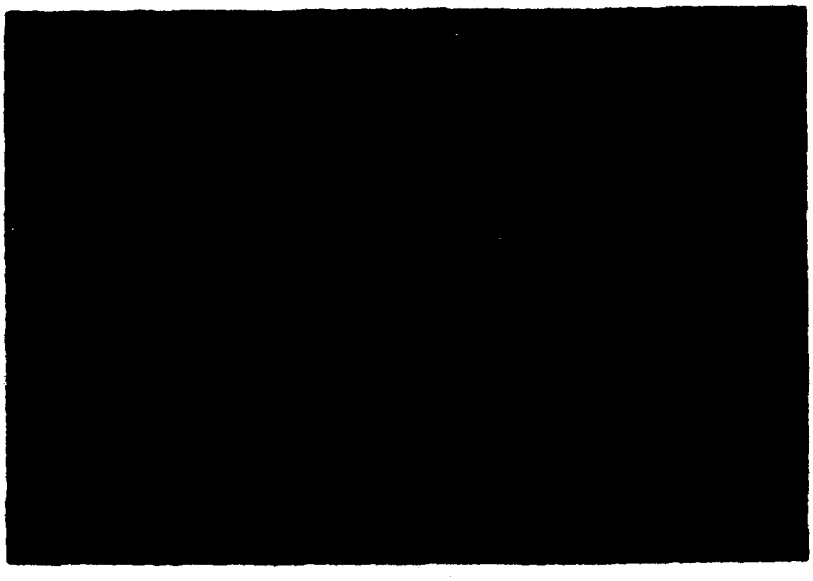


PLATE 13: NORTH SHORE OF SIREN POINT
LOOKING WEST/NORTHWEST

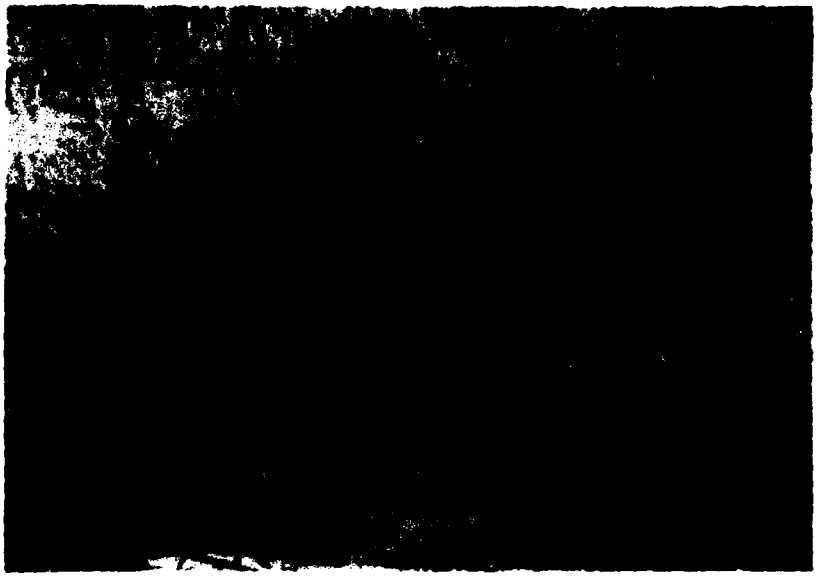


PLATE 14: CUTBANK NEAR 25HN36

PLATE 15: CUTBANK AT 25HN37 ON THE SOUTH SHORE OF WHITE CAT POINT

PLATE 16: ON 25HN50, LOOKING WEST TO 25HN40 (PHOTO TAKEN IN 1979)

PLATE 17: ON 25HN50, LOOKING WEST TO 25HN40 (PHOTO TAKEN IN 1900)

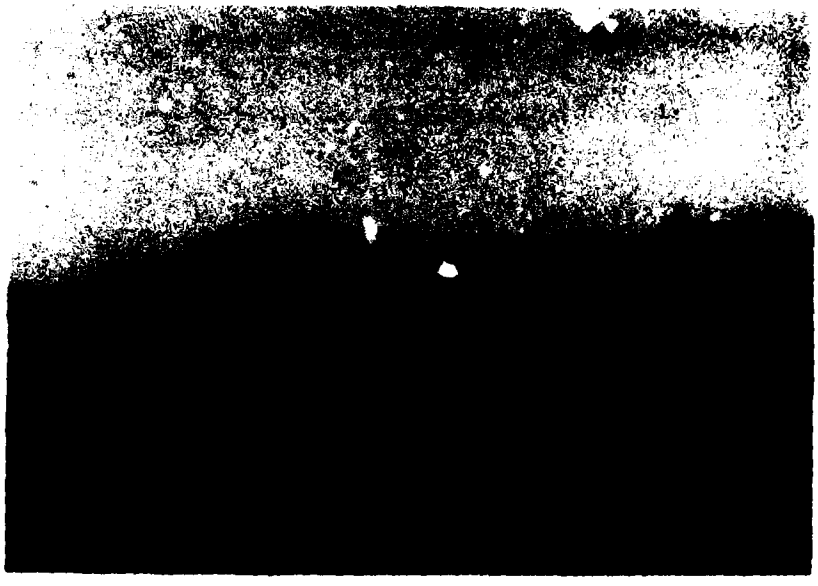


PLATE 18: ON 25HN40, LOOKING WEST TO 25HN50

PLATE 19: SHORELINE OF 25HN136

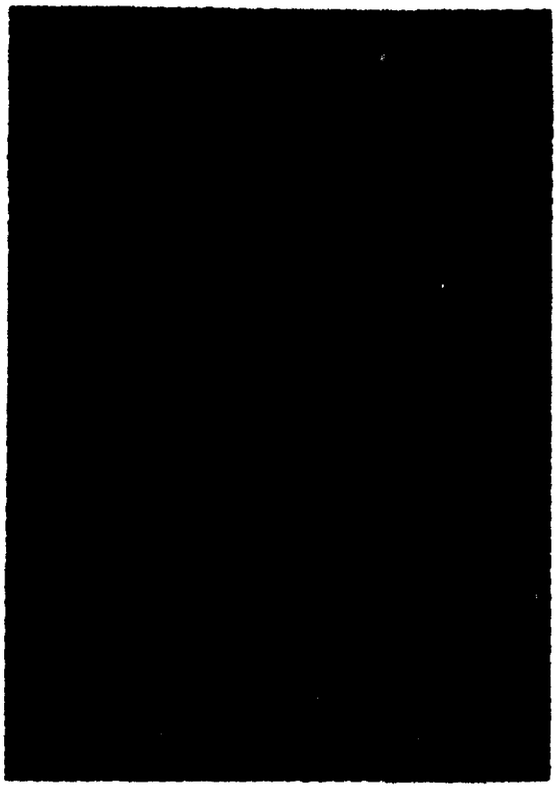


PLATE 20: TREES GRADUALLY FALLING FROM THE CUTBANK AT 25HN54

APPENDIX D: SCOPE OF WORK

MRKED-BR 26 January 1979

HARLAN COUNTY
REPUBLICAN RIVER, NEBRASKA
CULTURAL RESOURCES SURVEY & TESTING
SCOPE OF WORK

1. INTRODUCTION

a. Harlan County Lake is a Corps of Engineers project located on the Republican River, Harlan County, Nebraska. The project consists of 20,260 acres of Government-owned land, of which 13,600 acres are permanently inundated by the lake.

b. The following reports are the results of work funded by the National Park Service or Corps of Engineers.

1949 Champe, J.L.
"White Cat Village" American Antiquity Vol. XIV, No. 4, Part 1, April 1949

1972 Falk, C.R. and Thiessen, T.D.
"A Reappraisal of the Archeological Resources of the Harlan County Lake Area, Nebraska."

1978 Falk, C.R. and Pepperl, R.E.
"Preliminary Management Plan for Cultural Resources within the Harlan County Lake Area, Nebraska" (draft)

c. The work defined herein to be performed by the Contractor is called for in the National Historic Preservation Act of 1966 (PL 89-665) and is authorized for funding under Public Law 86-523 as amended by Public Law 93-291. Accomplishment of this work will provide documentation evidencing compliance with Executive Order 11593 "Protection and Enhancement of the Cultural Environment" dated 13 May 1971, Section 2 (a).

2. SCOPE

a. This work encompasses scientific survey and testing of specified sites within the project area and identification of materials recovered. The Contractor and his staff shall conduct this study in a professional manner using accepted methodology in accordance with 33CFR305 and proposed 36CFR66.

The Contractor shall be responsible for the preparation of a report of findings, fulfilling the requirements stated below.

3. STUDY APPROACH

a. Survey and Testing. The survey for cultural resources at Harlan County Lake can be accomplished by scientific investigation based on a research design approved by the Government. Recovery of data and cultural material shall be made as stated in 33CFR305 in accordance with proposed 36CFR66. Proper curation of recovered materials, and documentation of data is vital.

b. Problem Orientation. A Preliminary Cultural Resources Management Plan for the project area has identified sites that are most affected by project operations and shoreline erosion. Past work concentrated on survey of lands now inundated. This study is to be oriented toward survey of the shoreline and areas to be directly impacted by planned development to locate and evaluate the condition of archeological sites within the Harlan County Lake project area.

Recommendations for a basic orientation for investigation of these sites have been broadly outlined in the draft 1978 Preliminary Cultural Resources Management Plan.

c. Methodology. The justification for the locations selected for the initial survey has been stated in the 1978 Report. In order to investigate the sites, the Contractor shall, in accordance with the research design, use accepted and appropriate field and lab methods in accordance with proposed 36CFR66 including, but not limited to the following:

(1) Intensively survey approximately 800 acres of the shoreline between elevations 1935.0 m.s.l. and 1953.0 m.s.l.

Evaluation through limited field testing, to determine the extent/nature of remaining deposits at the following known shoreline sites for National Register significance shall be included in this survey.

25HN1	25HN37	25HN55
25HN11	25HN38	25HN56
25HN16	25HN40	25HN57
25HN31	25HN50	25HN58
25HN33	25HN53	25HN59
25HN36	25HN54	

(2) Survey areas not previously examined (as delineated in the 1978 report) of the following Public Use Areas:

Gremlin Cove	Alma
Hunter Cove	Patterson Harbor
North Cove	Outlet
Alma Vista	Alma City Park
Methodist Cove	

(3) Evaluation through limited field testing to determine the extent of remaining deposits at the following known sites for National Register significance shall be included in this survey.

25HN12
25HN14
25HN32
25HN38

(4) Collect sample of surface materials at each site.

(5) Photograph phases of field work, using black and white film and also illustrate diagnostic features and artifacts by either black and white photography or line drawings.

(6) Record provenience of materials and features, including maps and graphs when applicable.

(7) Collect materials for absolute dating (e.g. radio-carbon) when appropriate.

(8) Process, catalog, and curate all recovered materials.

(9) Make identification of cultural materials to answer the research design and to provide a base for future use by the archeological profession as data for research.

(10) Perform all measurements using the metric system.

4. SCHEDULE OF WORK

a. Coordination and Meetings. The Contractor shall pursue the study in a professional manner to meet the schedule specified. Prior to the initiation of actual field work, the Contractor shall submit a research design for review and approval as stated in Section 3a. He shall also coordinate all field schedules and activities with the appropriate cultural resources coordinator, State Historic Preservation Officer's representative, and the project office.

During the course of the study, the Contractor shall submit a monthly progress report. In addition, the Contractor shall review the progress of the work performed with representatives of the Corps of Engineers and the State Historic Preservation Officer (SHPO) at meetings as follows:

(1) Coordination meetings with the Government to include at least one during the field season at field headquarters and one during the laboratory and analysis period at the Contractor's facilities.

(2) One meeting, early in the report-writing phase, at the SHPO's office with representatives of the SHPO, the Contractor, and the Government to discuss findings, and report content and format.

(3) One meeting at the Kansas City District Office to discuss the reveiw of the draft of the report.

(4) By written request, the Contracting Officer may require the Contractor to furnish the services of technically qualified representatives to attend coordination meetings in addition to those specified above. Payment for such services will be made at a rate per hour for the disciplines(s) involved plus travel expenses computed in accordance with Government Joint Travel Regulations in effect at the time travel is performed.

b. Report Content and Schedule

(1) A report of findings shall be prepared by the Contractor and his staff. The main text of the report shall be written in a manner suitable for reading by persons not professionally trained as archeologists. Detailed presentation and discussion of data of interest to the archeological profession shall be included in a second part of the report or as appendices. The report is intended to be of use and interest to the general public as well as of value to the profession. Use of illustrations is encouraged.

(2) The report shall be authored by either the principal investigator or project director. If the project director is not the author, he shall review and edit the report prior to submission of the draft and final versions.

(3) Thirteen (13) copies of a complete draft of the report shall be submitted to the Contractiong Officer for purposes of Governmental review within twenty (20) months after receipt of notice to proceed. (If excessive inclement weather or other delays occur, this date may be extended to one mutually agreed upon between the Government and the Contractor.) In addition to standard review procedures, the Government may (at its discretion) send the draft report and Scope of Work to three qualified professionals not associated with a State or Federal Governmental agency for peer review of the merits and acceptability of the report. After a review period of approximately two (2) months, the Government will return the draft to the Contractor. The Contractor then shall complete necessary revisions and submit the final report, which shall be professionally edited, within sixty (60) calendar days after receipt of the reviewed draft. The Contractor shall submit the originals and two copies of the final report of findings to the Government. The copies shall include all plates, maps, and graphics in place so that they may be used as patterns for assembling the final report. The Government will edit the final report and after approval, will reproduce this report and provide the Contractor ten (10) copies for personal use, plus two (2) copies for each major contributing author.

(4) The report shall include the following:

(a) Description of the study area;

(b) A discussion of each site investigated and the identification of data mentioned above. A detailed description of sites and limited discussion of the recovered artifacts, presented both in support of the discussion in the text and also as valuable data for professional use of the report;

(c) A detailed description of the methods used in field and lab work;

(d) Recommendations which could be added to the preliminary cultural resources management plan for the operating project, and any suggestions for the archeological portion of the interpretative program.

(e) Illustrations, photos, maps, tables, and graphic representations of data appropriate to the text, such as illustrations of diagnostic artifacts;

(f) One map of the project area with known sites, indicating those areas which were surveyed, which sites were tested, cultural affiliations, and other pertinent information. (Color overlay reproduction is available.) Maps for inclusion in the report must be presented in such a manner that exact site locations are not disclosed;

(g) A glossary of terms;

(h) Reference section with all sources referred to in text or used for report, personal communications, interviews, bibliography, etc.;

(i) Copies of all correspondence pertaining to review of the draft report. These are to include the comments of the State Historic Preservation Officer, Heritage Conservation and Recreation Service, peer reviews (if applicable) by professional archeologists requested by the Government, together with responses to each of the comments given. The Scope of Work is to be included in this section; and

(j) Listing of principal investigators and field and lab personnel, with their qualifications, as an appendix.

(5) The final originals and two copies of the report shall be typed single-spaced on one side of paper with the margins set for reproduction on both sides of 8 x 10-1/2 inch paper. One of the copies shall be assembled in accordance with the attached style sheet. (Style sheet to be added later.)

e. Other Information. Six copies of materials not suitable for publication in the report shall be submitted with the draft. These materials include feature maps, large amounts of specialized statistical analysis data, repetitious photographs, a complete listing of all materials recovered, and where records are maintained, and other documentation

not of interest to most readers of the report. Averages, graphs, or summaries of statistical data are to be included in the publishable report. Large masses of specialized statistical data, such as certain artifact measurements, shall be stored on computer tapes or in microfilm so that it can be made readily available to interested persons. Publication of such bulk statistics in the report is not appropriate.

d. Materials Not for Release. Materials dealing with exact archeological site locations are considered confidential and are not to be published or released. Materials which shall accompany the report but which are not to be included in the report consist of:

(1) Six (6) copies of USGS and base maps indicating exact locations of all archeological resources and areas which were physically surveyed, including one copy of which will be furnished directly to the SHPO.

(2) Six (6) copies of survey forms for any newly recorded sites discovered incidental to this contract, including one copy each to be furnished directly to the SHPO.

e. Storage of Materials. Attached to the letter of transmittal for the final report shall be a listing of all cultural materials found during the field investigations, and a Certificate of Authenticity for these materials. Collections shall be properly stored in containers clearly marked "Property of the U.S. Government, Kansas City District, Corps of Engineers." These materials shall be stored at a repository mutually agreed upon by the Government, the Contractor, and the State Historic Preservation Officer. Retrieval of these materials by the U.S. Army Corps of Engineers for use by the Government is reserved. If the materials are to be removed from the curatorial facilities, this action must be approved in writing by the Contracting Officer.

5. FURTHER RESPONSIBILITIES OF THE CONTRACTOR AND GOVERNMENT

a. Contract Modifications

(1) Because of the complex nature of the prehistoric and historic resources being surveyed and tested, it is recognized that testing of additional sites may be required. If in the opinion of the Contracting Officer such additional work is needed, the contract will be modified pursuant to the provision of Article 2, Changes, of the Contract.

(2) The work identified in this document shall be complete in itself. There will be no assurance from the Government that additional work will follow, nor should such work be anticipated.

b. Data Availability. The Government shall provide the Contractor with available background information, maps, remotely sensed data

reports (if any) and correspondence as needed, In addition, the Government will provide support to the Contractor regarding suggestions on data sources, format of study outline and report, and review of study progress.

c. Right-of-Entry and Crop Damages. The Contractor shall have right-of-entry on all property owned by the Government. Compensation for damages to crops planted on Government property leased to various individuals shall be the responsibility of the Contractor.

d. Publication. It is expected that the Contractor and those in his employ, may during the term of the contract, present reports of the work to various professional societies and publications. Outlines or abstracts of those reports dealing with work sponsored by the Corps of Engineers shall be sent to the Kansas City District Office for review and approval prior to presentation or publication. Proper credit shall be given for Corps of Engineers' sponsored work, and the Corps of Engineers shall be furnished six (6) copies of each paper presented and/or published report.

e. Court Testimony. In the event of controversy or court challenge, the Contractor shall make available, as appropriate, expert witnesses who performed work under this contract and shall testify on behalf of the Government in support of the report findings. If a controversy or court challenge occurs and testimony of expert witnesses is required, an equitable adjustment shall be negotiated.

f. Safety Requirements. The Contractor shall provide a safe working environment for all persons in his employ as prescribed by EM 385-1-1, "General Safety Requirements," a copy of which will be provided by the Government.

g. Evaluation for National Register. The Contractor shall evaluate newly found archeological sites to determine their suitability for nomination to the National Register of Historic Places and shall make recommendations to the Government for the preservation, management and nomination of those sites which appear to qualify. After the excavations on the 21 sites are completed, the Contractor shall document in writing, the conditions of the site in accordance with 36CFR63.

6. STAFF AND FACILITY REQUIREMENTS

a. Project Director and Archeologist. Minimum qualifications are set forth in proposed 36CFR66, Appendix C, which is provided on page 5381 in the Federal Register, Vol. 42, No. 19, January 28, 1977.

b. Consultants. Personnel hired or subcontracted for their special knowledge and expertise must carry academic and experiential qualifications in their own fields of competence.

c. Equipment and Facilities. The Contractor also must provide or demonstrate access to:

(1) Adequate permanent field and laboratory equipment necessary to conduct operations defined in the Scope of Work; and

(2) Adequate laboratory and office space and facilities for proper treatment, analysis, and storage of specimens and records likely to be obtained from the project. This does not necessarily include such specialized facilities as pollen, geochemical, or radiological laboratories, but does include facilities sufficient to properly preserve or stabilize specimens for any subsequent specialized analysis.

GENERAL SERVICES ADMINISTRATION
NSN 7540-01-152-8101

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1	2

1. AMENDMENT/MODIFICATION NO.	2. EFFECTIVE DATE	3. REQUISITION/PURCHASE REQUEST NO.	4. PROJECT NO. (If applicable)
P00001			

5. ISSUED BY	CODE	CW41	6. ADMINISTERED BY (If other than block 5)	CODE
Kansas City District, Corps of Engineers Federal Building, 601 E. 12th Street Kansas City, Missouri 64106 816-374-3402 Buyer/Symbol: C. Avery, ED-3R			KCDO RECORD CONTRACT FILE	

7. CONTRACTOR NAME AND ADDRESS (No., street, city, county, State and ZIP code)	CODE	FACILITY CODE	8. AMENDMENT OF SOLICITATION NO. ____ DATED ____ (See block 9) [X] MODIFICATION OF CONTRACT/ORDER NO. DACW41-79-C-0074 Harlan County Lake, Nebraska DATED 79MAY24 (See block 11)
Impact Services, Inc. P. O. Box 3224 Mankato, Minnesota 56001			

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS

[ ] The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers [ ] is extended [ ] is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:

(a) By signing and returning ____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACCOUNTING AND APPROPRIATION DATA (If required)

LEGAL REVIEW

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS

(a) [X] This Change Order is issued pursuant to: provisions of ARTICLE 2, Changes, of the contract General Provisions.
The Changes set forth in block 12 are made in the above numbered contract/order.

(b) [ ] The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12.

(c) [ ] This Supplemental Agreement is entered into pursuant to authority of: ____

(d) Modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION

(a) Necessity for the Change. The change is required to delete the testing requirements for seven (7) sites for National Register eligibility and to add the requirement to perform an intensive shoreline survey of an additional 900 acres.

(b) The Change. Appendix A of the contract is modified as follows:

(1) Delete the first sentence of subparagraph 3.c.(1) in its entirety and substitute the following therefor:

"Intensively survey approximately 1700 acres of the shoreline between elevations 1940 m.s.l. and 1953 m.s.l. between the dam on the east, the Highway 136/183 bridge on the west and to the south in Prairie Dog Bay, on the north side of the bay, to the center of Section 23, Township 1 North, Range 18 West, and on the south side of the Bay to the center of Section 25, Township 1 North, Range 18 West."

(2) In subparagraph 3.c.(1), fifth line, substitute "25HN39" for "25HN38" and delete sites 25HN31, 25HN33, 25HN36 and 25HN39.

(3) In subparagraph 3.c.(3), delete sites 25HN12, 25HN14, and 25HN38.

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

13. [ ] CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT. [X] CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 1 COPIES TO ISSUING OFFICE. requested

14. NAME OF CONTRACTOR/OFFEROR	15. UNITED STATES OF AMERICA
BY: Kathleen A. Roetsel (Signature of person authorized to sign)	BY: Merribel F. Ganley (Signature of Contracting Officer)
14B. NAME AND TITLE OF SIGNER (Type or print): Kathleen A. Roetsel, President	14C. DATE SIGNED: 12/10/79
15B. NAME OF CONTRACTING OFFICER (Type or print): MERRIBEL F. GANLEY, Chief, Procurement & Supply Division	15C. DATE SIGNED: 79Dec03

12(c) continued.

(c) Time. There will be no change in the contract period as a result of this modification.

(d) Payment. There will be no change in the contract amount as a result of this modification.

APPENDIX E: VITAE

VITA

PERSONAL DATA

Name: Kathleen Ann Roetzel Birthday: June 19, 1951
Marital Status: Married Telephone: 507-243-3658 H
507-243-3657 O

Address: Rural Route 1, Box 11
Madison Lake, Minnesota 56063

EDUCATION

Post Graduate Work (Anthropology/Archaeology), Ohio State University and the University of Minnesota. 1974,1975.
M.A. in Anthropology/Archaeology from Ohio State University, 1974.
B.A. in Sociology from Mankao State University, 1973.
A.A. (General) from Rochester Community College. 1971.

CURRENT POSITION

Prehistoric Archaeologist and President, Impact Services Inc.
P. O. Box 3224 Mankato, Minnesota 56001

FIELD EXPERIENCE

Principal Investigator: Cultural Resource Survey of the Cannon River Park, Le Sueur County, Minnesota. Winter, 1981

Principal Investigator: Cultural Resource Survey of Stoney Point Park, Lincoln County, Minnesota. Winter, 1981.

Principal Investigator: Cultural Resource Survey of Rasmussen Woods/Indian Creek Slough, Blue Earth County, Minnesota. Fall, 1980

Principal Investigator: Cultural Resource Survey of the Kasota Access, Le Sueur County, Minnesota. Summer, 1980.

Principal Investigator: Archaeological Reconnaissance Survey of the Louisa Transmission Circuits 345-56-93-H-1 and 345-93-H-T-1 and Substations T and 92, Muscatine, Louisa, and Washigton Counties, Iowa. Summer 1980.

Co-Principal Investigator: The Cultural Resources Survey of the Henderson Station County Park, Le Sueur County, Minnesota. Summer 1980.

Principal Investigator: The Cultural Resource Survey of the Proposed Underground Transmission Lines, Lac Qui Parle, Yellow Medicine, and Chippewa Counties, Minnesota Summer 1980.

Principal Investigator: The Cultural Resource Survey of the Proposed Channel Realignment Area at Big Stone-Whetstone Flood Control Project, Big Stone and Lac Qui Parle Counties, Minnesota. For the St. Paul District, U.S. Army Corps of Engineers. Summer 1980.

Principal Investigator: The Cultural Resource Survey of McDonald's Park near Hutchinson, McLeod County, Minnesota. Summer 1980.

Principal Investigator: Archaeological Survey and Site Testing at Maquoketa Caves State Park, Jackson County, Minnesota. For the Iowa Conservation Commission. Spring-Summer 1980.

Principal Investigator: The Cultural Resources Survey of the Depot Riveside Park in Kenyon, Goodhue County, Minnesota. Spring, 1980.

Principal Investigtor: The Cultural Resources Survey of the Proposed Wildwood County Park, Blue Earth County, Minnesota. Spring 1980.

Principal Investigator: Cultural Resource Survey of the Wastewater Treatment Facilities at Morton, Renville County, Minnesota. Winter, 1979/1980.

Principal Investigator: Cultural Resource Survey of the New Ulm Airport Expansion Project, Brown County, Minnesota. Winter, 1979/1980.

Principal Investigator: The Cultural Resource Investigation of the Wild Rice River - South Branch and Felton Ditch Flood Control Project Area, Clay and Norman Counties, Minnesota. For the St. Paul District, U. S. Army Corps of Engineers. Fall, 1979.

Principal Investigator: An Archaeological Investigation of the Proposed Lagoon Site, Dam Site Recreation Area, Coralville Lake, Iowa River, Iowa. With Richard A. Strachan. For the Rock Island District, U. S. Army Corps of Engineers. Summer, 1979.

Principal Investigator: Archaeological Site Survey and Testing of the Harlan County Lake, Republican River, Nebraska. For the Kansas City District, U. S. Army Corps of Engineers. Summer, 1979.

Principal Investigator: The Archaeological Reconnaissance Survey of the Storm Water Diversion and Treatment System Project, Waseca County, Minnesota. Summer, 1979.

Principal Investigator: Site Survey at Lakeview City Park, Waseca County, Minnesota. Summer, 1979.

Site Survey at Blue Earth City Park, Faribault County, Minnesota. Principal Investigator: Richard A. Strachan. Spring, 1979.

Site Survey of the Proposed Wastewater Treatment Facility in Zumbro Falls, Wabasha County, Minnesota. Principal Investigator: Richard A. Strachan. Spring, 1979.

Principal Investigator: Cultural Resource Inventory of the Historic and Prehistoric Cultural Resources of the Chippewa National Forest. With Nancy L. Woolworth. For the United States Forest Service. Milwaukee, Wisconsin. Fall, 1979.

Site Supervisor: Site Survey of the Stanton and Preferred Corridors, North and South Dakota. Principal Investigator: Richard A. Strachan. Summer and Fall, 1978.

Principal Investigator: Site Survey of the Bureau of Reclamation Irrigation Project Near Pollock and Herreid, Campbell County, South Dakota. For the Bureau of Reclamation. With Nancy L. Woolworth. Summer, 1978.

Field Supervisor: Site Survey at Garvin Park, Lyons County, Minnesota. Principal Investigator: Richard A. Strachan. Fall, 1977.

Principal Investigator: Excavation of the Eleanor Site (21NL30), Nicollet County, Minnesota. With Richard A. Strachan. Summer, 1977.

Principal Investigator: Archaeological Site Survey of the Eleanor Site (21NL30), Nicollet County, Minnesota. With Richard A. Strachan. Spring, 1977.

Principal Investigator: Archaeological Survey of Woods Lake Park, Faribault County, Minnesota. Fall, 1976.

Principal Investigator: Site Survey of Swan Lake Perimeter, Nicollet County, Minnesota. With Richard A. Strachan. Fall, 1976.

Field Supervisor: Archaeological Excavation of the Eleanor Site (21NL30), Nicollet County, Minnesota. Principal Investigator: Richard A. Strachan. Summer, 1976.

Principal Investigator: Aerial Site Survey of Lake Ashtabula, Barnes County, North Dakota. With Richard A. Strachan. For the St. Paul District, U. S. Army Corps of Engineers. Summer, 1976.

Salvage Excavation of the Silvernale Site (Mississippian Village), Goodhue County, Minnesota. Principal Investigator: Christina Harrison. Spring and Fall, 1976.

Field Supervisor: Site Survey of the Swan Lake Perimeter, Nicollet County, Minnesota. Principal Investigator: Richard A. Strachan. Fall, 1975.

Field Supervisor: Site Survey of the Rochester Flood Control Area, Olmsted County, Minnesota. Principal Investigator: Richard A. Strachan. Fall 1975.

Crew Member: Excavation of the Mankato Site (Woodland Tool Factory), Blue Earth County, Minnesota. Principal Investigator: Richard A. Strachan. Summer, 1974.

Crew Member: Excavation of the Bauer Site (Woodland Camp), Le Sueur County, Minnesota. Principal Investigator: Richard A. Strachan. Summer and Fall, 1972.

LABORATORY EXPERIENCE

Analysis of Material from the Site Survey and Testing of the Maquoketa Caves State Park, Jackson County, Iowa. Summer 1980.

Analysis of Material from the Site Survey and Testing of the Harlan County Lake, Republican River, Nebraska. Winter 1980.

Analysis of Material from the Archaeological Investigation at the Proposed Lagoon Site, Coralville Lake, Iowa. Winter, 1979.

Analysis of Material from the Archaeological Survey of the Stanton and Preferred Corridors, North and South Dakota. Fall, 1978.

Analysis of Material from the Archaeological Survey of the Bureau of Reclamation Irrigation Project, Campbell County, South Dakota. Summer, 1978.

Analysis of Results from the Cultural Resource Inventory of the Chippewa National Forest. Summer, 1978.

Analysis of Material from the Archaeological Excavation of the Eleanor Site (21NL30), Nicollet County, Minnesota. Fall, 1977.

Analysis of Material from the Site Survey of the Swan Lake Perimeter, Nicollet County, Minnesota. Fall, 1976.

Analysis of Material from the Archaeological Excavations of the Eleanor Site (21NL30), Nicollet County, Minnesota. Summer, 1976.

Analysis and Report Preparation of the Lake Ashtabula Aerial Infrared Survey, Barnes County, North Dakota. Summer, 1976.

Analysis of Material from the Rochester Flood Control Area, Olmsted County, Minnesota. Fall, 1975.

Analysis and Report Preparation of the Mankato Flood Control Area Project, Blue Earth County, Minnesota. Summer, 1975.

Laboratory Technician: Division of Archaeology, Ohio Hisorical Society. Summer, 1974.

Laboratory Supervisor: Museum of Anthropology, Mankato State University. Fall, 1972.

PUBLICATIONS AND MANUSCRIPTS

The Archaeological Survey of Stoney Point Park, Lincoln County, Minnesota. Winter. 1980/1981.

An Archaeological Reconnaissance Survey of the Cannon River Park, Le Sueur County, Minnesota. Winter, 1980/1981.

Intensive Archaeological Reconnaissance and Site Testing for the National Register of Historic Places, Harlan County, Nebraska, Volume I: Technical Report. With Richard A. Strachan, Patricia Emerson, and Wanda Watson.

Intensive Archaeological Reconnaissance and Site Testing for the National Register of Historic Places, Harlan County, Nebraska, Volume II: Documentation. With Richard A. Strachan, Patricia Emerson, and Wanda Watson.

Cultural Resource Survey of the Kasota Access, Le Sueur County, Minnesota. Summer, 1980.

Archaeological Reconnaissance Survey of the Louisa Transmission Circuits 345-56-93-H-1 and 345-93-H-T-1 and Substations T and 92, Muscatine, Louisa, and Washington Counties, Iowa. Summer 1980.

The Cultural Resources Survey of the Henderson Station County Park, Le Sueur County, Minnesota. Summer 1980.

The Cultural Resource Survey of the Proposed Underground Transmission Lines, Lac Qui Parle, Yellow Medicine, and Chippewa Counties, Minnesota. Summer 1980.

The Cultural Resource Survey of the Proposed Channel Realignment Area at Big Stone-Whetstone Flood Control Project. Big Stone and Lac Qui Parle Counties. Minnesota. Summer 1980.

The Cultural Resource Survey of McDonald's Park near Hutchinson. McLeod County. Minnesota. Summer 1980.

An Archaeological. Architectural-Historical. and Geomorphological Survey at Maquoketa Caves State Park. Jackson County. Minnesota. Volume I: Technical Report. With Richard A. Strachan, Michael A. Eigen, Robert Douglas, and Patricia Emerson. Summer 1980.

An Archaeological. Architectural-Historical. and Geomorphological Survey at Maquoketa Caves State Park. Jackson County. Minnesota. Volume II: Documentation. With Richard A. Strachan, Michael A. Eigen, Robert Douglas, and Patricia Emerson. Summer 1980.

An Archaeological. Architectural-Historical. and Geomorphological Survey at Maquoketa Caves State Park. Jackson County. Minnesota. Volume III: Popular Report. With Richard A. Strachan, Michael A. Eigen, Robert Douglas, and Patricia Emerson. Summer 1980.

The Cultural Resources Survey of the Depot Riverside Park in Kenyon. Goodhue County. Minnesota. Spring, 1980.

The Cultural Resources Survey of the Proposed Wildwood County Park. Blue Earth County. Minnesota. Spring 1980.

The Cultural Resource Survey of the Proposed Wastewater Treatment Facilities at Morton. Renville County. Minnesota. Winter, 1980.

The Cultural Resources Survey of the New Ulm Airport Expansion Project. Brown County. Minnesota. Winter, 1979.

The Cultural Resource Investigation of the Wild Rice River - South Branch and Felton Ditch Flood Control Project Area. Clay and Norman Counties. Minnesota. With Michael A. Eigen. For the St. Paul District, U. S. Army Corps of Engineers. Winter, 1979-1980.

An Archaeological Investigation of the Proposed Lagoon Site. Dam Site Recreation Area. Coralville Lake. Iowa. With Richard A. Strachan. For the Rock Island District, U. S. Army Corps of Engineers. With Richard A. Strachan. Winter, 1979.

The Archaeological Reconnaissance Survey of the Storm Water Diversion and Treatment System Project. Waseca County. Minnesota. Summer, 1979.

An Archaeological and Historical Survey and Report of Findings on Proposed Bureau of Reclamation Project near Pollock and Herreid. South Dakota. With Nancy L. Woolworth. For the Department of the Interior, Bureau of Reclamation.

Cultural Resource Inventory of the Historic and Prehistoric Resources of the Chippewa National Forest. With Nancy L. Woolworth. For the United States Forest Service.

Aerial Infrared Archaeological Survey of the Lake Ashtabula, North Dakota. With Richard A. Strachan. For the St. Paul District, U. S. Army Corps of Engineers. Fall, 1976.

Archaeological Survey of Mankato Flood Control Area. With Richard A. Strachan. For the St. Paul District, U. S. Army Corps of Engineers. Fall, 1975.

TEACHING EXPERIENCE

Instructor (Sessional): Department of Sociology, Mankato State University. Winter, 1980.

Instructor (Sessional): Department of Sociology, Mankato State University. Winter and Spring, 1978.

Instructor (Sessional): Department of Sociology/ Anthropology, Hamline University. Summer, 1977.

Instructor (Sessional): Department of Sociology, Mankato State University. Spring, 1977.

Instructor (Sessional): Department of Sociology, Mankato State University. Winter, 1976.

Teaching Assistant: Department of Anthropology, Ohio State University. Winter, 1974.

Teaching Assistant: Department of Anthropology, Ohio State University. Spring, 1974.

AREAS OF INTEREST

Eastern North American Prehistory, Upper Great Lakes Prehistory Paleoecology, Conservation Archaeology, Physical Archaeology, and Museology.

PROFESSIONAL MEMBERSHIPS

Society for American Archaeology
American Anthropological Association
Council for Minnesota Archaeology
Minnesota Academy of Science
Blue Earth County Historical Society

REFERENCES

Christy A.H. Caine
State Archaeologist
U. S. Forest Service
Cass Lake, Minnesota

Paul R. Brown
AssistantProfessor of Anthropology
Mankato State University
Mankato, Minnesota

William R. DeMaree
Professor of Sociology
Mankato State University
Mankato, Minnesota

Richard A. Strachan
Professor of Anthropology
Director, Museum of Anthropology
Mankato State University
Mankato, Minnesota

VITA

PERSONAL DATA

Name: Richard Alan Strachan Birthday: October 11, 1946
Marital Status: Married Telephone: 507-243-3658

Address: R.R 1 Box 11 Madison Lake, Minnesota 56001

EDUCATION

Ph.D. in Anthropology from Wayne State University, 1973.
M.A. in Anthropology from Wayne State University, 1969.
B.A. in History from Wayne State University, 1968.

CURRENT POSITION

Professor (tenured), Mankato State University.
Associate Professor (tenured), Mankato State University.
Director, Mankato State University Museum of Anthropology.
Senior Archaeologist, Impact Services Inc., Mankato, Minnesota

TEACHING EXPERIENCE

Professor, Mankato State University (1980 - present).
Associate Professor, Mankato State University (1975-1980).
Assistant Professor, Mankato State University, (1971-1975).
Instructor, Social Science Program, Wayne State University (1972-1975).
Instructor (Sessional), Department of Sociology and Anthropology, University of Windsor (1969-1971).
Instructor (Adjunct), Social Science Program, Wayne State University (1969-1970).

AREAS OF INTEREST

Archaeology, Eastern North American Prehistory, Minnesota Prehistory, Paleoecology, Theory, Statistics, Computers.

FIELD EXPERIENCE

Consultant: An Archaeologial and Architectural Historical Survey of Maquoketa Caves State Park, Jackson County, Iowa. With Kathleen A. Roetzel, Michael Eigen, Robert Douglas, and Patricia Emerson. Volume I, II, and III. For the Division of Historic Preservation. Iowa City, Iowa. August 1980.

Principal Investigator: The Cultural Resource Investigation of the Louisa Transmission: Circuits 345-56-93-H-1 and 345-93-H-

T-1, and Substations T and 92, Muscatine, Louisa, and Washingon Counties, Iowa. With Kathleen A. Roetzel. For the Iowa-Illinois Gas and Electric Company, Davenport, Iowa. August 1980.

Principal Investigator: The Cultural Resource Survey of McDonald's Park, Near Hutchinson, McLeod County, Minnesota. For the Hutchinson Recreation Department. July 1980.

Principal Investigator: The Archaeological Survey of Henderson Station, Le Sueur County, Minnesota. For the Le Sueur County Board of Supervisors. Spring, 1980.

Principal Investigator: The Archaeological Reconnaissance Survey Near Zumbro Falls, Wabasha County, Minnesota. For Israelson and Associates, Bloomington, Minnesota. Spring, 1979.

Principal Investigator: The Archaeological Reconnaissance Survey of Blue Earth City Park, Faribault County, Minnesota. For the City Administrator, Blue Earth, Minnesota. Spring, 1979.

Principal Investigator: The Archaeological Reconnaissance Survey of the Storm Water Diversion and Treatment System Project, Waseca County, Minnesota. Principal Investigator: Kathleen A. Roetzel. Summer, 1979.

Consultant: Archaeological Site Survey and Testing of the Harlan County Lake, Republican River, Nebraska. Principal Investigator: Kathleen A. Roetzel. For the Kansas City District, U. S. Army Corps of Engineers. Summer, 1979.

Principal Investigator: Site Survey of the Dam Site Recreation Area, Coralville Lake, Iowa River, Iowa. With Kathleen A. Roetzel. For the Rock Island District, U. S. Army Corps of Engineers. Summer, 1979.

Principal Investigator: Site Survey at Blue Earth City Park, Faribault County, Minnesota. Spring, 1979.

Principal Investigator: Site Survey of the Proposed Wastewater Treatment Facility in Zumbro Falls, Wabasha County, Minnesota. Spring, 1979.

Principal Investigator: Site Survey of the Kansas Lake Park, Watonwan County, Minnesota. Spring, 1979.

Principal Investigator: Site Survey of the Stanton and Preferred Corridors, North and South Dakota. Summer and Fall, 1978.

Principal Investigator: Excavation of the Eleanor Site (21NL30), Nicollet County, Minnesota. Summer, 1978.

Principal Investigator: Site Survey for the Southwestern Minnesota Cooperative Electric, Rock County, Minnesota. Summer, 1978.

Principal Investigator: Site Survey at Camden State Park, Lyons County, Minnesota. Summer, 1978.

Consultant: Site Survey of the Bureau of Reclamation Irrigation Project Near Pollock and Herreid, Campbell County, South Dakota. Principal Investigators: Kathleen A. Roetzel and Nancy L. Woolworth. Summer, 1978.

Principal Investigator: Site Survey of Le Sueur County Park Near Lake Washington, Le Sueur County, Minnesota. Summer, 1978.

Principal Investigator: Site Survey at Garvin Park, Lyons County, Minnesota. Fall, 1977.

Principal Investigator: Site Survey at Camden State Park, Lyons County, Minnesota. Spring, 1977.

Principal Investigator: Excavation of the Eleanor Site (21NL30), Nicollet County, Minnesota. With Kathleen A. Roetzel. Summer, 1977.

Principal Investigator: Archaeological Site Survey of the Eleanor Site (21NL30), Nicollet County, Minnesota. With Kathleen A. Roetzel. Spring, 1977.

Principal Investigator: Site Survey of Swan Lake Perimeter, Nicollet County, Minnesota. With Kathleen A. Roetzel. Fall, 1976.

Principal Investigator: Aerial Site Survey of Lake Ashtabula, Barnes County, North Dakota. With Kathleen A. Roetzel. Summer, 1976.

Salvage Excavation of the Silvernale Site (Mississippian Village), Goodhue County, Minnesota. Principal Investigator: Christina Harrison. Spring and Fall, 1976.

Principal Investigator: Site Survey of the Swan Lake Perimeter, Nicollet County, Minnesota. Fall, 1975.

Principal Investigator: Site Survey of the Rochester Flood Control Area, Olmsted County, Minnesota. Fall, 1975.

Principal Investigator: Excavation of the Mankato Site (Woodland Tool Factory), Blue Earth County, Minnesota. Summer, 1974.

Principal Investigator: Excavation of the Bauer Site (Woodland Camp). Le Sueur County, Minnesota. Summer and Fall, 1972.

Principal Investigator: Site Survey of Blue Earth and Surrounding Minnesota Counties. 1971-1972.

Principal Investigator: Salvage Excavation of the DeClerk

Site (Historic Cabin), Macomb County, Michigan. Summer, 1970.

Principal Investigator: Excavation of the Cady Site (Multi-Component Prehistoric Habitation), Macomb County, Michigan. With Gordon L. Grosscup. 1970.

Excavation of the Moross House (Historic House), Wayne County, Michigan. Principal Investigator: Gordon L. Grosscup. Fall, 1969.

Excavation of the Heidenreich Site (Historic Farm), Macomb County, Michigan. Principal Investigator: Gordon L. Grosscup. Fall, 1968.

REPORTS AND PUBLICATIONS

The Cultural Resources Survey of the Harlan County Reservoir, Harlan County, Nebraska. With Kathleen A. Roetzel. For the Kansas City District, U. S. Army Corps of Engineers. In Progress. An Archaeolgial and Architectural Historical Survey of Maquoketa Caves State Park, Jackson County, Iowa. With Kathleen A. Roetzel, Michael Eigen, Robert Douglas, and Patricia Emerson. Volume I, II, and III. For the Division of Historic Preservation. Iowa City, Iowa. August 1980.

The Cultural Resource Investigation of the Louisa Transmission Circuits 345-56-93-H-1 and 345-93-H-T-1, and Substations T and 92, Muscatine, Louisa, and Washington Counties, Iowa. With Kathleen A. Roetzel. For the Iowa-Illinois Gas and Electric Company, Davenport, Iowa. August 1980.

The Cultural Resource Survey of McDonald's Park, Near Hutchinson, McLeod County, Minnesota. For the Hutchinson Recreation Department. July 1980.

The Archaeological Survey of Henderson Station, Le Sueur County, Minnesota. For the Le Sueur County Board of Supervisors. Spring,1980.

The Archaeological Reconnaissance Survey Near Zumbro Falls, Wabasha County, Minnesota. For Israelson and Associates, Bloomington, Minnesota. Spring, 1979.

The Archaeological Reconnaissance Survey of Blue Earth City Park, Faribault County, Minnesota. For the City Administrator, Blue Earth, Minnesota. Spring, 1979.

An Archaeological Survey of Lake Washington County Park, Le Sueur County, Minnesota. For the Le Sueur County Board of Supervisors. Summer, 1978.

An Archaeological Survey in Rock County, Minnesota. For the Southwestern Minnesota Cooperative Electric Company, Pipestone, Minnesota. Summer, 1978.

An Archaeological Survey at Garvin Park, Lyons County, Minnesota. For the Lyons County Parks and Recreation Department. September, 1977.

Archaeological Survey of Woods Lake Park. For the Faribault County Parks and Recreation Department. Fall, 1976.

Aerial Infrared Archaeological Survey of Lake Ashtabula, North Dakota. With Kathleen A. Roetzel. For the St. Paul District, U. S. Army Corps of Engineers. Fall, 1976.

Archaeological Survey of Rochester Flood Control Area. For the St. Paul District, U. S. Army Corps of Engineers. Fall, 1975.

Archaeological Survey of Mankato Flood Control Area. With Kathleen A. Roetzel. For the St. Paul District, U. S. Army Corps of Engineers. Fall, 1975.

The Cady Site: A Methodological and Statistical Analysis of a Multi-Component Archaeological Site. Ph.D. Dissertation. August, 1973.

A Review of Africa, 1969-1970, by Editorial Staff of "Jeune Afrique," in African Studies Review (Formerly African Studies Bulletin), Vol. 13, No. 1, 1970.

PAPERS AND MANUSCRIPTS

Excavations at the Eleanor Site (21NL30): New Methods and Approaches. Paper Presented at the Spring Meeting of the Council for Minnesota Archaeology 1978.

Computerized Bibliography of Minnesota Archaeology. Manuscript Form. 1978.

Thermal Alteration of Oolitic Chert. In "Lithic Techology Symposium" at the Joint Plains Anthropology Conference - Midwest Archaeological Society Annual Meetings. Minneapolis, Minnesota. October, 1976.

Lithic Technologies in Minnesota. With Wanda Watson and Jerry Kaufman. A Paper Presented at the Annual Meetings of the Minnesota Academy of Science. Mankato, Minnesota. May, 1975.

Projectile Point Taxonomy - A Different Approach. A Paper Presented at the Annual Meetings of the Central States Anthropological Society, Chicago, Illinois. March, 1974.

Archaeology at the Bauer Site. With Robert Burgess. A Paper Presented at the Annual Meetings of the Minnesota Academy of Science. Northfield, Minnesota. May, 1973.

The Codification of Artifacts - To Compute or Not To Compute. A Paper Presented at the Annual Meetings of the Central States

Anthropological Society. Cleveland, Ohio. April, 1972.

Preliminary Analysis of the Horse Thief Island Site. A Paper Presented at the Annual Meetings of the Minnesota Academy of Science. Marshall, Minnesota. May, 1972.

Lessons From the Past. The Keynote Address at the Minnesota Junior Academy of Science, Annual Meeting. St. Paul, Minnesota. November, 1972.

Excavations at Cady Corners: A Preliminary Report. A Paper Presented at the Clinton Valley Chapter of the Michigan Archaeological Society. Southfield, Michigan. March, 1971.

The Computer in Historic Archaeology: A Preliminary Analysis of the Moross House Site. With Karen D. Kovac. A Paper Presentd at the Annual Meetings of the American Anthropological Association. New York, New York. November, 1971.

Profile Analysis in the Interpretation of Archaeological Data. A Paper Presented at the Annual Meeting of the Society for American Archaeology. Norman, Oklahoma. May, 1971.

A Kinship Simulation: A Functioning Model of a Functioning System. A Paper Presented at the Annual Meetings of the Central States Anthropological Society. Detroit, Michigan. April, 1971.

The Nupe: An African Peasant Society Since the Fifteenth Century. A Paper Presented at the Annual Meetings of the Central States Anthropologcal Society. Bloomington, Indiana. April, 1970.

Simulation Applications in Anthropology. With Zelda Klapper. A Paper Presented at the Annual Meetings of the Central States Anthropologicl Society. Bloomington, Indiana. April, 1970.

SCHOLARLY ACTIVITIES

Organizer and Local Arrangements Co-Chairman Symposium on "Current Directions in Upper Midwestern prehistory, Mankato State University May, 1980

President, Council for Minnesota Archaeology (1977-1979).

Consultant, Southwest District, Department of Natural Resources (1977-1979).

Consultant, Southeast District, Department of Natural Resources (1977-1979).

Project Consultant, "An Archaeological/Historical Survey and Report of Findings on the Proposed Bureau of Reclamation Irrigation Project Near Pollock and Herreid, South Dakota." 1978.

Project Consultant, "An Archaeological/Historical Literature and Records Search on Lands Within the Chippewa National Forest." United States Forest Service.

Local Arrangements Chairman, 1976 Joint Meetings of the Plains Anthropological Conference - Midwest Archaeological Society. Minneapolis, Minnesota. October, 1976.

Session Chairman, "Methodological Approaches" at the 1976 Joint Meetings of the Plains Anthropological Conference - Midwest Archaeological Society. Minneapolis, Minnesota. October, 1976.

Vice-President, Council for Minnesota Archaeology (1977-1979).

Chairman, Ethics and Membership Committee. Council for Minnesota Archaeology. 1976.

Acting Chairman, Council for Minnesota Archaeology. 1976.

Chairman, Archaeological Survey Standards Committee. Council for Minnesota Archaeology. 1976.

Anthropology Section Chairman, 1974 Meetings of the Minnesota Academy of Science. St. Paul, Minnesota. May, 1974.

GRANTS AND AWARDS

Sabbatical Leave, Mankato State University. Spring Quarter 1979.

Faculty Improvement Grant, Mankato State University, for Completion and Analysis of Artifactual Material from the Cady Site. Summer, 1972.

Faculty Research Grant, Mankato State University. Entitled "Excavation and Analysis of the Bauer Site." Summer, 1972.

Faculty Research Grant, Mankato State University. Entitled "An Archaeological Site Survey of Seleted Southern Minnesota Counties." 1971-1972.

Computer Research Grant, Department of Anthropology, Wayne State University. Computer Time for Integrated Analysis During the Excavation of the Cady Site. 1970-1971.

National Science Foundation Summer Traineeship. Summer, 1970.

University Graduate Fellowship, Wayne State University. 1969-1970.

University Professional Scholarship, Wayne State University. 1968-1969.

PROFESSIONAL MEMBERSHIPS

Society for Professional Archaeologists
Council for Minnesota Archaeology
Blue Earth County Historical Society
Current Anthropology Associate

REFERENCES

Christy A.H. Caine, State Archaeologist
Chippewa National Forest
Cass Lake, Minnesota

Gordon L. Grosscup, Associate Professor of Anthropology
Wayne State University

William R. DeMaree,Professor
Mankato State University

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PERSONAL DATA

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EDUCATION

M.S. in Continuing Studies-Archaeology from Mankato State University - May, 1981.
B.A. in Anthropology from Hamline University - June, 1974.

CURRENT POSITION

Supervisor, Mankato State University Museum of Anthropology.
Adjunct Faculty, Department of Sociology, Mankato State University.

FIELD EXPERIENCE

Field Supervisor: Cultural Resource Survey of the Cannon River Park, Le Sueur County, Minnesota. Winter 1981.

Field Supervisor: Cultural Resource Survey of Stoney Point Park, Lincoln County, Minnesota. Winter 1981.

Field Supervisor: Cultural Resource Survey of Rasmussen Woods/ Indian Creek Slough, Blue Earth County, Minnesota. Fall 1980.

Field Supervisor: Cultural Resource Survey of Clear Lake Park, Jackson County, Minnesota. Summer 1980.

Field Supervisor: Archaeological Survey and Site Testing at Maquoketa Caves State Park, Jackson County, Iowa. Spring-Summer 1980.

Crew Member: Archaeological Reconnaissance Survey of the Louisa Transmission Circuits 345-56-93-H-1 and 345-93-H-T-1 and Substations T and 92, Muscatine, Louisa and Washington Counties, Iowa. Summer 1980.

Crew Member: The Cultural Resources Survey of the Proposed Channel Realignment Area at Big Stone-Whetstone Flood Control Project, Big Stone and Lac Qui Parle Counties, Minnesota. Summer 1980.

Crew Member: The Cultural Resource Investigation of the Wild

Rice River - South Branch and Felton Ditch Flood Control Project Area, Clay and Norman Counties, Minnesota. Fall 1979.

Assistant Naturalist: Blue Mounds State Park, Rock County, Minnesota. Summer 1979.

Crew Member: Intensive Archaeological Reconnaissance and Site Testing, Harlan County Lake, Harlan County, Nebraska. Summer 1979.

Crew Member: Archaeological Survey of Helmer Myre State Park, Freeborn County, Minnesota. Summer 1978.

Assistant Field Supervisor: Salvage Excavation of the Silvernale Site, Goodhue County, Minnesota. Summer-Fall 1977.

Assistant Field Supervisor: Salvage Excavation of the Silvernale Site, Goodhue County, Minnesota. Summer-Fall 1976.

Crew Member: Salvage Excavation of the Silvernale Site, Goodhue County, Minnesota. Summer-Fall 1975.

Crew Member: Excavation of the Oliver H. Kelley Farmstead, Sherburne County, Minnesota. Fall 1972.

LABORATORY EXPERIENCE

Laboratory Supervisor: Mankato State University Museum of Anthropology. Fall 1980 through Spring 1981.

Analysis of Material and Report Preparation from the Site Survey and Testing of Harlan County Lake, Republican River, Nebraska. Winter 1980.

Analysis of Material and Report Preparation from the Site Survey and Testing of Maquoketa Caves State Park, Jackson County, Iowa. Summer 1980.

Analysis of Material from the Archaeological Excavation of the Eleanor Site (21NL30), Nicollet County, Minnesota. Fall-Winter 1979.

Analysis of Material and Report Preparation from the Archaeological Survey of Helmer Myre State Park, Freeborn County, Minnesota. Fall 1978.

Analysis of Material and Report Preparation from the Archaeological Excavation at Oliver H. Kelley Farmstead, Sherburne County, Minnesota. Winter 1973.

PUBLICATIONS AND MANUSCRIPTS

A Multivariate Predictive Model for Archaeological Site Location. Master's Paper, Mankato State University.

Archaeological Survey of Helmer Myre State Park, Freeborn County, Minnesota. With Richard A. Strachan, Laurie Mulcahy, Amy Welch, Leann Rudenick and Lana Siriyuvasakdi. To be completed Spring, 1981.

Intensive Archaeological Reconnaissance and Site Testing for the National Register of Historic Places, Harlan County, Nebraska. Volume I: Technical Report. With Kathleen A. Roetzel, Richard A. Strachan and Wanda A. Watson. Winter 1980/1981.

Intensive Archaeological Reconnaissance and Site Testing for the National Register of Historic Places, Harlan County, Nebraska. Volume II: Documentation. With Kathleen A. Roetzel, Richard A. Strachan and Wanda A. Watson. Winter 1980/1981.

Research Design for Analysis of Palynological and Floral Materials from Archaeological Contexts Using the Scanning Electron Microscope. Manuscript on File, Mankato State University Museum of Anthropology. Fall 1980.

Prehistoric Agriculture in Eastern North America. Manuscript on File, Mankato State University Museum of Anthropology. Fall 1980.

An Archaeological, Architectural-Historical, and Geomorphological Survey at Maquoketa Caves State Park, Jackson County, Iowa. Volume I: Technical Report. With Kathleen A. Roetzel, Richard A. Strachan, Michael A. Eigen and Robert Douglas. Summer 1980.

An Archaeological, Architectural-Historical, and Geomorphological Survey at Maquoketa Caves State Park, Jackson County, Iowa. Volume II: Documentation. With Kathleen A. Roetzel, Richard A. Strachan, Michael A. Eigen and Robert Douglas. Summer 1980.

An Archaeological, Architectural-Historical, and Geomorphological Survey at Maquoketa Caves State Park, Jackson County, Iowa. Volume III: Popular Report. With Kathleen A. Roetzel, Richard A. Strachan, Michael A. Eigen and Robert Douglas. Summer 1980.

A Proposal for an Archaeological Para-Professional Certification Program for the State of Minnesota. With Lota Lou Emery, Karen A. Gill, and Audrey Thomas. Paper presented to the Council for Minnesota Archaeology. Fall 1976.

Report on the Excavation of the Oliver H. Kelley Farmstead, Sherburne County, Minnesota. With Vernon R. Helmen. Report submitted to the Minnesota Historical Society. Winter 1973.

TEACHING EXPERIENCE

Instructor (Sessional): Department of Sociology, Mankato State University. Winter 1980.

Instructor (Sessional): Department of Sociology, Mankato State University. Winter 1979.

ASSISTANTSHIPS

Graduate Assistant: Department of Sociology, Mankato State University. Fall 1980 through Spring 1981.

AREAS OF INTEREST

Upper Midwest Archaeology, Statistical/Computer Applications in Archaeology, Cultural Resource Management, Archaeological Field Methodology, Paleoecology.

PROFESSIONAL MEMBERSHIPS

Society for American Archaeology
American Anthropological Association
Smithsonian Institution

REFERENCES

Kathleen A. Roetzel
President, Impact Services Inc.
P.O. Box 3224
Mankato, Minnesota

Richard A. Strachan
Professor of Anthropology
Director, Museum of Anthropology
Mankato State University
Mankato, Minnesota

Stanley Riggle
Assistant State Historic Preservation Officer
State Historic Preservation Office
Iowa City, Iowa

VITA

PERSONAL DATA

Name: Wanda Anne Watson Birthday: November 9, 1953

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Mankato, Minnesota 56001

CURRENT POSITION

Senior, Mankato State University, Mankato, Minnesota

EDUCATION

B.A. in Anthropology/Archaeology from Mankato State University to be completed Summer, 1981.

B.A. in Biology from Mankato State University to be completed Summer, 1981.

FIELD EXPERIENCE

1981 Crew Member: Cultural Resource Survey of Stoney Point Park, Lincoln County, Minnesota. Winter, 1981. Principal Investigator: Kathleen A. Roetzel.

1980 Crew Member: Site Survey of Clear Lake, Jackson County, Minnesota. Summer, 1980. Principal Investigator: Kathleen A. Roetzel.

Crew Member: Cultural Resource Survey of the Louisa Transmission Line, Muscatine, Louisa, and Washington Counties, Iowa. Summer, 1980. Principal Investigator: Kathleen A. Roetzel.

Crew Member: An Archaeological and Architectural Historical Survey of Maquoketa Caves State Park, Jackson County, Iowa. Summer, 1980. Principal Investigator: Kathleen A. Roetzel.

Field Supervisor: Site Survey of Swan Lake Perimeter and Johnson Island, Nicollet County, Minnesota. Summer, 1980, Principal Investigator: Richard A. Strachan.

1977 Crew Member: Excavation of the Eleanor Site (21NL30), Nicollet County, Minnesota. Principal Investigators: Kathleen A. Roetzel and Richard A. Strachan. Summer, 1977.

1976 Crew Member: Site Survey of Swan Lake Perimeter, Nicollet County, Minnesota. Fall, 1976. Principal Investigators: Richard A. Strachan and Kathleen A. Roetzel.

Crew Member: Archaeological Excavation of the Eleanor Site (21NL30), Nicollet County, Minnesota. Summer, 1976. Principal Investigator: Richard A. Strachan.

Crew Member: Salvage Excavations of the Silvernale Site (21GD3), Goodhue County, Minnesota. Spring, 1976. Principal Investigator: Christina Harrison.

1975 Crew Member: Site Survey of Swan Lake Perimeter, Nicollet County, Minnesota. Fall, 1975. Principal Investigator: Richard A. Strachan.

Field Supervisor: Site Survey of the Rochester Flood Control Area, Olmsted County, Minnesota. Fall, 1975. Principal Investigator: Richard A. Strachan.

Crew Member: Site Survey of the Mankato Flood Control Area, Blue Earth County, Minnesota. Summer, 1975. Principal Investigator: Richard A. Strachan.

LABORATORY EXPERIENCE

1981 Analysis of Material from the Archaeological Survey of Johnson Island, Swan Lake, Nicollet County, Minnesota. Winter, 1981.

1980 Analysis of Material from the Archaeological Survey of Swan Lake Perimeter and Johnson Island, Nicollet County, Minnesota. Fall/Winter, 1980.

Analysis and Report Preparation of Material from the Site Survey and Testing of Harlan County Lake, Republican River, Nebraska. Winter, 1980.

Analysis and Report Preparation of Material from the Site Survey and Testing of the Maquoketa Caves State Park, Jackson County, Iowa. Summer, 1980.

Analysis of Material from the Archaeological Excavation of the Eleanor Site (21NL30), Nicollet County, Minnesota. Winter/Spring, 1980.

1979 Analysis of Material from the Archaeological Excavation of the Eleanor Site (21NL30), Nicollet County, Minnesota. Fall/ Winter/Spring, 1979.

1977 Analysis of Material from the Archaeological Excavation of the Eleanor Site (21NL30), Nicollet County, Minnesota. Fall, 1977.

1976 Analysis of Material from the Site Survey of the Swan Lake Perimeter, Nicollet County, Minnesota. Fall, 1976.

Analysis of Material from the Archaeological Excavations of the Eleanor Site (21NL30), Nicollet County, Minnesota. Summer, 1976.

1975 Analysis of Material from the Rochestor Flood Control Area, Olmsted County, Minnesota. Fall, 1975.

Analysis of Material from the Mankato Flood Control Area, Blue Earth County, Minnesota. Summer, 1975.

PUBLICATIONS AND MANUSCRIPTS

1981 Intensive Archaeological Reconnaissance and Site Testing for the National Register of Historic Places, Harlan County, Nebraska. Volume I: Technical Report. With Kathleen A. Roetzel, Richard A. Strachan, and Patricia M. Emerson.

Intensive Archaeological Reconnaissance and Site Testing for the National Register of Historic Places, Harlan County, Nebraska. Volume II: Documentation. With Kathleen A. Roetzel, Richard A. Strachan, and Patricia M. Emerson.

1980 Analysis of Archaeobotanical Microremains with the Scanning Electron Microscope. Manuscript on File, Mankato State University Museum of Anthropology.

1975 Lithic Technologies in Minnesota. A Paper Presented at the Annual Meetings of the Minnesota Academy of Science. Mankato, Minnesota. May, 1975. Manuscript on File, Mankato State University Museum of Anthropology.

AREAS OF INTEREST

Lithic Technologies, Minnesota Prehistory, Eastern North American Prehistory, Theory, Paleobotany, Paleontology, and Electron Microscopy.

REFERENCES

Richard A. Strachan
Professor of Anthropology
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Kathleen A. Roetzel
President
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Professor of Biology
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PROFESSIONAL MEMBERSHIPS

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Minnesota Academy of Sciences